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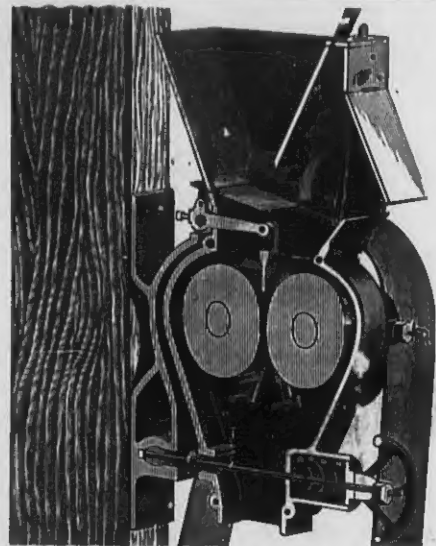
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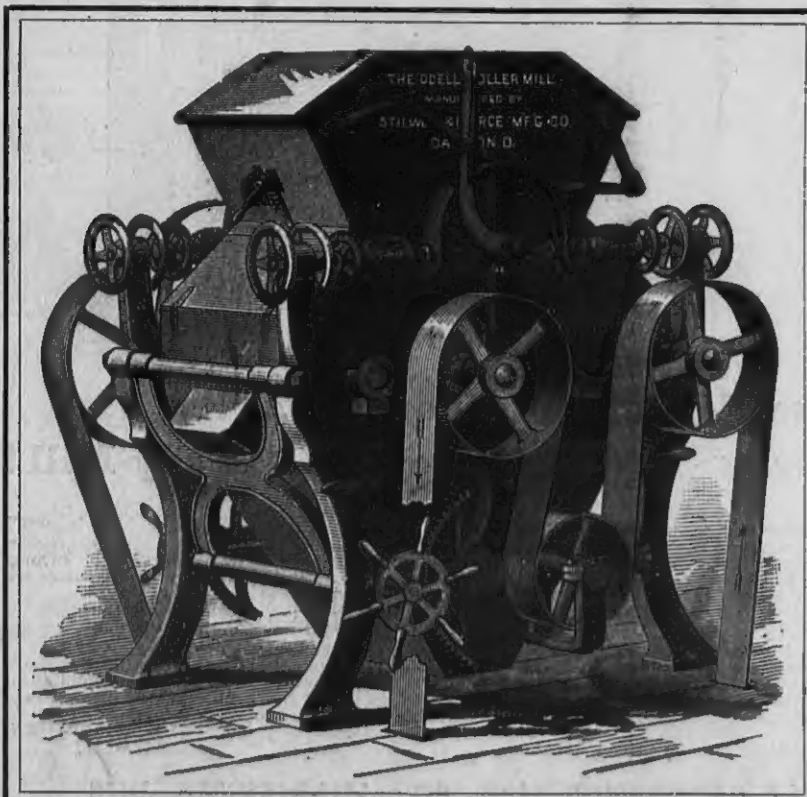
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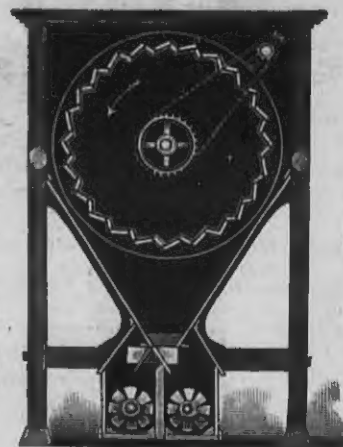
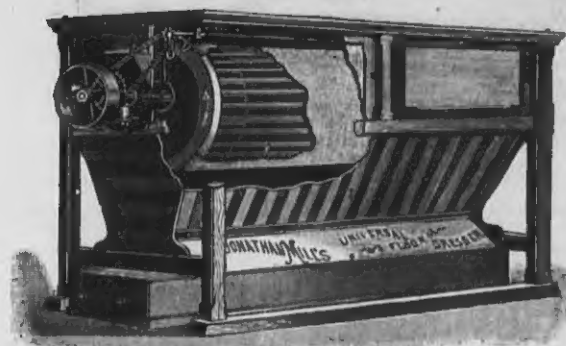
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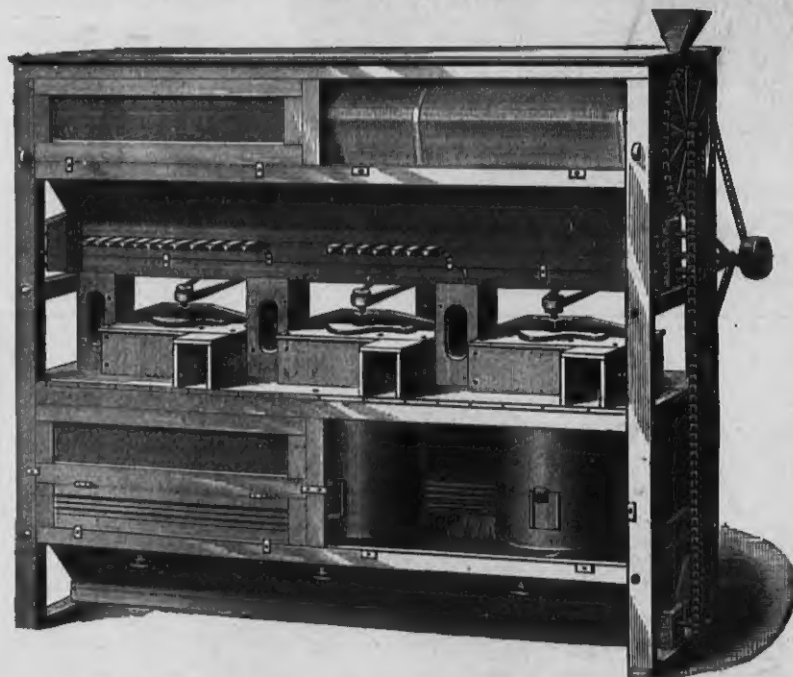
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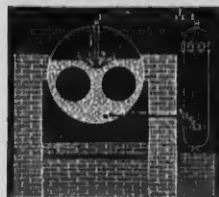
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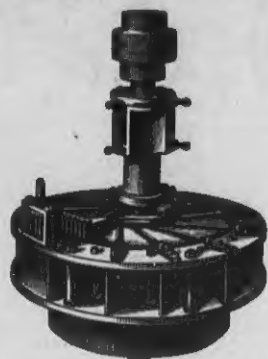
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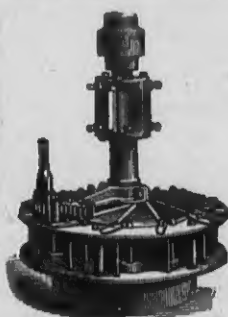
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GRAIN HERE AND ABROAD.

Our Consul-General at London reports that the depression affecting the cultivation of cereals in Great Britain has reached its acutest stage. American competition and bad seasons have borne most heavily on British wheat growers, and the acreage of wheat in Great Britain the present year has fallen 74 per cent. as compared with last year's. From other sources come statements about the depressing effect of American competition upon agriculture in the British isles. The farmers of Yorkshire have recently formed a co-operative society in order that they may sell produce directly to the consumer and get rid of the middleman and his profits. Careful observers report that agriculture in Scotland is in very bad condition. Many farms have been deserted and are degenerating to a wild state like the abandoned farms on the hills in some parts of New England. But the trouble in Scotland, while due in the first place to foreign competition, has been prolonged and intensified by high rents.

We do not see, however, that it is American competition which the British wheat grower just now has cause to fear. It was announced not long ago that in the six Western states that furnish the greater part of our winter wheat crop the acreage had been decreased at the last sowing, and that the reports indicated a tendency to turn from wheat to other crops. This decrease of acreage was caused by the low price of wheat, and the low price of our wheat has been caused in the main by the competition of India and Australia in the British wheat market, although the prevailing depression of industry and trade has had some effect in that direction. January wheat was sold in Chicago on Saturday for 83½ cents, but still there is substantially no export demand. Owing to a remarkable decrease in the quantity exported, our visible supply is enormous, notwithstanding the deficiency in the last crop. It is the cheap wheat of India and other countries that is breaking down the English wheat grower now, and the effect of its introduction in Europe is felt in this country. The average price of wheat in more than 150 English towns, week before last, was as low as the lowest price reached last year. This low price is not due to the sale of American wheat in England at low prices. The attitude of England toward American wheat is indicated by the *Mark-Lane Express*, which said recently: "Great Britain is, at the present time, quite independent of American red wheats. We do

not need them and we do not want them, and the one great danger is that they should be sent here under circumstances equivalent to liquidation on account of United States gamblers." This overstates the case, but marks the great change that has taken place in the British wheat market.

Consul-General Waller advises the American producer to grow more oats and barley for export, for the reason that in selling these crops they will not meet the severe competition of India. It is probable that the supply of Indian wheat for export will increase from year to year, owing to the development of the industry and of the railway system in that country by means of British capital. Indian competition in the wheat market, therefore, will not fall off, but will become more dangerous. At the same price the English will buy American wheat, because it is better, but the English buyer not only sees the Indian wheat far underselling the American but has also learned that the price of American wheat is fixed by speculation rather than by legitimate trade. He can rely upon the steadiness of the price of the Indian supply, but he knows that the operations of a syndicate or a burst of speculation among the grain gamblers in this country may send up the price of our wheat 10 cents a bushel in two or three days. Gambling in our grain market in the past led the foreign consumer to develop the agricultural resources of regions that are now our formidable rivals, and gambling in the same market now tends to confirm the trade arrangements which it then caused to be established.—*N. Y. Times*.

Now is your time to send in your subscriptions for milling papers and other periodicals. Read our Club List on another page.

FREEZING MIXTURES.

It often happens that a plumber desires to stop the flow of water in a pipe when there is no way to turn it off. He must then resort to the use of some freezing mixture. The one most often used is ice and salt. The cold is produced by the large amount of heat abstracted from the body surrounded, necessary to change the ice and salt to a liquid state. It is probable that few people know the proper proportions of these two substances to put together to secure the best result. To inform those who have occasion to use such mixtures, *The Sanitary News* has compiled a list of the freezing mixtures readily prepared. The first column gives the ingredients with their proper proportions, the second gives the tem-

perature to which the thermometer sinks in the different mixtures, and the third gives the actual reduction of temperature which takes place in degrees Fahrenheit. The degrees below zero are prefixed by a minus sign.

Mixtures.	Thermometer sinks degrees F.	Actual reduction of temperature, degrees F.
1. 2 parts snow or pounded ice, 1 part sodium chloride.....	to -5	
2. 5 parts snow or pounded ice, 2 parts sodium chloride, 1 part ammonium chloride.....	to -12	
3. 24 parts snow or pounded ice, 10 parts sodium chloride, 5 parts potassium nitrate.....	to -18	
4. 12 parts snow or pounded ice, 5 parts sodium chloride, 5 part ammonium nitrate.....	to -25	
5. 1 part ammonium nitrate 1 part water.....	from 40 to 4	36
6. 5 parts ammonium chloride, 5 parts potassium nitrate, 16 parts water...	" 50 to 10	40
7. 5 parts ammonium chloride, 5 parts potassium nitrate, 8 parts sodium sulphate, 16 parts water..	" 50 to 4	46
8. 5 parts sodium sulphate, 4 parts dilute sulphuric acid.....	" 50 to 3	47
9. 3 parts sodium nitrate, 2 parts dilute nitric acid....	" 50 to -3	53
10. 3 parts snow, 2 parts dilute sulphuric acid.....	" 32 to -23	55
11. 1 part ammonium nitrate, 1 part sodium carbonate, 1 part water....	" 50 to -7	57
12. 8 parts snow, 5 parts hydrochloric acid.....	" 32 to -27	59
13. 6 parts sodium sulphate, 4 parts ammonium chloride, 2 parts potassium nitrate, 4 parts dilute nitric acid.....	" 50 to -10	60
14. 9 parts sodium phosphate, 4 parts dilute nitric acid.....	" 50 to -12	62
15. 7 parts snow, 4 parts dilute nitric acid.....	" 32 to -30	62
16. 4 parts snow, 5 parts calcium chloride.....	" 32 to -40	72
17. 2 parts snow, 3 parts crystallized calcium chloride.....	" 32 to -50	82
18. 3 parts snow, 4 parts potash.....	" 32 to -51	83
19. 6 parts sodium sulphate, 5 p'ts ammonium nitrate, 4 parts dilute nitric acid.	" 50 to -40	90

We will send *The Millers' Review* (with flour trier) and the U. S. Miller for one year for \$1.75.

SCIENTIFIC SHAFTING.

A writer who is evidently well posted in the scientific phases of shafting discusses that important branch of mechanics in the London "Engineer" in the following entertaining way: Shafting, whether it be in the form of a short crank or other axle, or propeller shaft, or lay shafting in a mill or a workshop, must, if it is to work with the minimum friction possible, be mounted in accordance with certain mechanical principles, the soundness of which is generally understood, though they are not always exactly acted upon. In the case of short shafts such as in ordinary engine work, the shafts must not only be absolutely straight, but they must be of a diameter sufficiently large in proportion to their length to prevent deflection when subjected to a load such as a heavy fly-wheel or the side strain of a driving strap. According to some authorities an iron bar, however large, will be elongated or deflected by the imposition of any load however small, the alteration in the bar being proportionate to the load; but practical rules of common sense indicate that a shaft may have certain loads imposed on it which, while far exceeding those indicated by theory, do not cause injurious alterations of shape. In this matter a very considerable margin exists certainly, but unfortunately no one seems to know its exact extent. Text books give various rules for the proportions of shafting, but they mostly apply to torsional strains, which of themselves alone can scarcely cause friction in bearings, unless by shortening a shaft, and thus forcing the journal shoulders or collars against the ends of the brasses. Another principle is that side strain should be imposed as close as practical to a bearing. A third is that in the case of long shafting it ought to consist of a succession of short axles, each rotating in its own pair of bearings, independent of its neighbors in every respect save that of torsion. Lastly, bearings should be as rigid and inflexible as it is possible to make them. Bearings should support the shaft, not be supported by it. A good test of a perfect shaft, perfectly supported, would be the placing of the pedestals or plummer on smooth and greasy metal faces, the shaft with a light fly-wheel accurately balanced to be keyed on the shaft midway between the bearings, and the wheel set rotating, when any error in the shaft itself would cause motion in one or both pedestals. The most perfect mounting for a short shaft is to cast both pedestals in one with the bed plate, which must itself be so shaped as not to be susceptible of flexure or change of shape through change of level in its foundation. The pedestals ought to be eyes, if the design of the shaft will admit, these eyes being bored out with one boring bar, brass liners being subsequently forced into them, and these again bored out while in position. This method, however, will not suffice to reduce friction if the other points we have indicated are neglected; for if a fly-wheel be mounted on the outer part of the shaft, at a long overhang, a deflecting action is at once set up in the shaft, which is now simply a girder of the continuous and cantilever order, loaded vertically so far as the fly-wheel is itself concerned, and if a driving belt be worked on the fly-wheel, loaded in extent and direction proportionate to the resultant of the two

strains of the weight of the wheel and the pull on the belt. Again, if the wheel be not truly balanced, a strain is also put on the shaft by the centrifugal action of the preponderating weight, for all rotating bodies have centres of gyration which are fixed by the position of their centres of gravity, and round these they will ever try to rotate, resisting any force tending to confine them to any other rotative centre with an effort greater or less in proportion to the divergence existing between the natural and the enforced centre. Although the truths we now point out ought to be well known, some of the shafting to be seen at work is without apparent reason mounted with disregard to them. Wall-box supports are commonly used, yet they are altogether vicious and unscientific contrivances; and we venture to say that if sufficiently accurate gauges were applied to test the centreing of all the wall-boxes in use for, say, any period exceeding twelve months, not 10 per cent. of them would be found true. We will admit that cases exist and arise where they are necessary evils; the necessity does not, however, do away with the evil, and we are inclined to think that they are sometimes employed without necessity compelling it. The use of three bearings on short shafts is to be avoided as much as possible, and it is infinitely preferable to make a shaft self-supporting by enlarging its diameter, which may be done either in the ordinary way as a solid or by the use of hollow shafting.

When we come to regard the usual method of mounting lay shafting, we also perceive a neglect of first principles. We find shafting small in diameter in proportion to its length, even as regards the distance apart of its supports, and far more so as regarding the shaft, as a single rod, which, from the mode of uniting its separate lengths, it becomes. Such a bar, even before its pulleys are put on, is anything rather than straight; the load of the pulleys puts it still more out of truth, and then finally comes both the deadweight of half the belting driven by it and also the diverging strains of the loads on the driving sides of the belts. All these make a length of shafting serpentine, and this is increased in proportion to the distance of this or that pulley from a bearing. Hence it follows that the bearings must and do suffer; so also does the oil bill and the coal bill. Another source of friction and brass cutting is to be found in the methods sometimes observable of fixing the hangers or brackets, such as bolting to joists or flooring overhead, either of which are subjected to constant variations of load, and consequent alterations of line; or bolting to the members of an iron roof or its supporting columns, which are in perpetual movement of expansion, contraction, or from wind stresses. In many cases there is no better way practicable; but then the evil can be met by putting up shafting in independent lengths, each having its own pair of supports, and transmitting the rotation power by universal joints, or the simpler expedient of cross-ends plain on one end and "taken on to" by studs or pins fixed on the other cross-end.

It is probable that not one steam user on a large scale in a hundred can tell how much power is absorbed in overcoming preventable friction in his shafting. Yet it could be ascertained by the simple process of putting

an idle pulley under each shaft pulley, and loading it to such an extent as would put a strain on the shaft there equal to that caused by the machine driven by that pulley, then running the engine at its usual speed, subsequently running the engine idle, and noting the difference of power absorbed. We may also point out that brass is used far more freely than is necessary for lay shaft beams. Hardwood, such as hornbeam or beach, is much better and cheaper when the loads are not too heavy. Wood bearings will run for years. They soak up oil and come to a beautiful surface, and they never cut a shaft as brass will do. The virtues of wood are not understood as they ought to be.—*The Engineer*, London.

FIRE DOORS IN MILLS.

From a Lecture before the Franklin Institute by C. John Hexamer.

There are few parts in fire construction which are of so much importance, and generally so little understood, as fire doors. Instances of the faulty construction of these, even by good builders and architects, may daily be seen. Iron doors over wooden sills, with the flooring boards extending through from one building to the other, are common occurrences. We frequently find otherwise good doors hung on wooden jambs by ordinary screws. Sliding doors are frequently hung on to woodwork, and all attachments are frequently so arranged that they would be in a very short time destroyed by fire, and cause the door to fall. In case of fire, a solid iron door offers no resistance to warping. In an iron lined door, on the contrary, the tendency of the sheet iron to warp is resisted by the interior wood, and when this burns into charcoal, it still resists all warping tendencies. I have seen heavily braced solid iron doors warped and turned after a fire, having proved themselves utterly worthless. It is needless to say that when wooden doors are lined, they should be lined on both sides; but frequently we find so-called fire-proof doors lined on one side only.

Good doors are frequently blocked up with stock and other material, so that in case of fire they could not be closed without great exertion; or they have been allowed to get out of order, so that in case of fire they are useless. This has been so common that it has given rise to the jocular expression of insurance men, when they are told that a fire door exists between the two buildings, "Warranted to be open in case of fire." The strictest regulations should exist in regard to closing the fire doors nightly. Frequently we find that although the fire door, and its different parts, are correctly made, there are openings in the wall which would allow the fire to travel from one building to the other, such as unprotected belt and shaft holes. That a fire door may be effective, it must be hung to the only opening in the wall.

The greatest care must be exercised to keep joists from extending too far into the wall, so as not to touch the joists of the adjacent building, which would transmit the flames from one building to the other in case of fire. A good stone sill should be placed under the door, and the floor entirely cut. Sills should be raised about one and a half inches above the level of the floor, in order to accomplish the necessary flooding of the same. If stock must be wheeled from one building to the

other, the sill can be readily beveled on both sides of the wall, allowing the wheels to pass readily over it. Lintels should consist of good brick arches. When swing doors are used, they should be hung on good iron staples, well walled into the masonry, and the staples so arranged that the door will have a tendency to close by its own weight. The door should consist of two layers of good one and a quarter inch boards, nailed crosswise, well nailed together and braced, and then covered with sheet iron nailed on, or if of sheet tin, flanged, soldered, and nailed. Particular care should be taken to insert plenty of nails, not only along the edge of the door, but crosswise in all directions. I have seen cases, where the entire covering had been ripped off through the warping tendencies of the sheet iron.

The hinges on these doors should be good strap hinges, tightly fastened to the door by bolts extending through it, and secured by nuts on the other side. Good latches which keep the door in position when closed should always be provided. In no case should the door be provided with a spring lock which cannot be freely opened, as employes might thereby be confined in a burning room.

Sliding doors should be hung on wrought iron runways, fastened tightly to the wall. Wooden runways iron lined, which we frequently see, are not good, as the charring of the wood in the interior causes them to weaken and the doors to drop. Runways should be on an incline, so that the door when not held open will close itself. Care must be taken to have a stop provided in the runway, so that the doors may not, as I have frequently seen them, overrun the opening which it is to protect. Doors should overlap the edges of the openings on all sides. Large projecting jambs should never be used.

All doors contained in "fire walls" should have springs or weights attached to them, so as to be at all times closed. Fire doors can be shut automatically by a weight, which is released by the melting of a piece of very fusible solder employed for this purpose. So sensitive is this solder that a fire door has been made to shut by holding a lamp some distance beneath the soldered link and holding an open handkerchief between the lamp and link. Though the handkerchief was not charred, hot air enough had reached the metal to fuse the solder and allow the apparatus to start into operation.

These solders are alloys more fusible than the most fusible of their component metals. A few of them are: Wood's alloy, consisting of: cadmium, 1 to 2 parts; tin, 2 parts; lead, 4 parts; bismuth, 7 to 8 parts.

This alloy is fusible between 150° and 159° Fahr. The fusible metal of D'Arcet is composed of: bismuth, 8 parts; lead, 5 parts; tin, 3 parts.

It melts at 173.3°. We can, therefore, by proper mixture, form a solder which will melt at any desirable temperature. Numerous devices for closing doors automatically have been constructed, all depending upon the use of the fusible solder catch.

CAMPAIGN STORIES.—The Virginia campaign will go into history as the battle-royal of the story-tellers. John S. Wise, who is a whole minstrel show, end man, interlocutor, and all, set the pace to commence with. He told stories from the mountains to the coast,

and the whole state was agrin. The tide was republican. Fitz Lee tried the saddle and the confederate flag racket for awhile, and then he, too, fell to telling stories. The republican tide reached its flood. As the finish neared, story-telling became the issue. Mahone sent for Sherman and Foraker, and attempted to infuse some seriousness into the campaign. The effort was a failure. The republican tide receded. Then the democrats redoubled the funny business. They sent for Dan Voorhees, for O'Neill, of Missouri, and for Akers, of Tennessee, and Barbour's request of them was: "Tell stories! For God's sake, tell stories!" Parson Massey crawled out of a sick-bed to make sport for the party. It was a queer element to infuse into politics, and into Old Dominion politics at that, but it won. There were no duels, and less blood was spilled in the whole campaign than is usually let out in a day when Virginia is politically moved. He laughs best who laughs last, and the democrats laughed last.

Mr. Akers is rehearsing some of the stories with which he made democratic votes, and out of all his repertory he selects this as the one which proved most effective:

"A nigger had a dream, and thought he went to hell. The next day he told his friends what he had dreamed, and they asked him a great many questions.

"Did you see ole Satan down dar?" one of 'em asked.

"Oh, yes; I seed ole Satan an' Belzybub an' Pollyun an' de hull lot. Dey was jes' standin' roun' an' tendin' to de bisnis, pokin' de fires an' makin' it berry hot."

"Was—was dey any niggers down dar?" asked one.

"Oh, yes, dey was heaps o' niggers, heaps ob 'em."

"White folks?"

"Oh, yes, lots o' white folks, scores an' scores ob 'em."

"Democrats?"

"Oh, yes, plenty democrats."

"An' publikins?"

"Oh, yes, de publikins, dey was in one pen by deyselves, an' de democrats dey was in a pen, too."

"Was de black and de white publikins in de pen?"

"Yes, dey was altogedder in the same pen."

"Wat wor dey all doin'?"

"Well, I clar to goodnis, when I looked in dat ar pen and seed dem it 'peared like ebery white publikin had a nigger a holdin' up 'twixt him and de fire to catch de heft ob the heat."

"I estimate that story was good for twelve hundred nigger votes to our side in this Virginia campaign," says Mr. Akers.—*St. Louis Globe-Democrat*.

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FALSE TEACHINGS AND PROPHECIES OF FREE-TRADING.

Furnished exclusively to THE UNITED STATES MILLER for January 1886.

[Extract from a lecture on "The Humanity of the American Protective Tariff," delivered before the Wisconsin Legislature, at Grand Army Hall, Rockford, Ill., etc., by John W. Hinton, of Milwaukee.

In reference to the false teachings and prophecies of free-traders, Mr. Hinton said: "I will now briefly allude to the false teachings and prophecies of English free-traders. Had their predictions been realized, or their promises fulfilled, had other countries adopted free-trade, as it was claimed they would be compelled to do, and abjectly submitted to the English claims of being the only nation, having an exclusive right, *deo gratia*, to manufacture for the whole world, then, there might be some tangible ground for the assertions of the modern free-traders of England and America.

The exact reverse is the truth. Free-trade never has been nor is it now anything but a "science based upon assumptions." All is assumed; nothing is proven. The couplet of Pope's, slightly altered, expresses the truth:

"Hope springs eternal in the free-trade breast,
Man never is, but always to be blest."

Assumptions and theories, *ad infinitum*, are the weapons of free-traders, until their minds seem filled with "false and glittering thoughts, and hurried and flippant fantasies are substituted for exact and philosophical reasoning." The palpable realities and proven results of protection as seen in our own and other countries wherever tried and so long tested, are ignored or derided; they cannot be disproved for "facts are stubborn things."

Mr. Cobden was no exception to the mass of English free-traders, all having proved failures as prophets. Not one of his predictions has been verified. His dogmas, so positively and defiantly pronounced, have been paralleled only by the perfect refutation of every claim he set forth, and with which he gulled his countrymen.

The author I before quoted to you at the beginning of this address, says:

"If we would form a just estimate of our modern English notions on this matter, we must look backwards, look around us, and look forward; or we shall resemble the rustic, whose history and geography are circumscribed by his own life in his own parish."

English protectionists were better prophets. In 1844 they were gravely doubtful and deeply anxious as to the results to England, if the free-trade movement succeeded, should other nations pass tariff laws for the encouragement and protection of their own manufactures.

Mr. Cobden dogmatically denounced their doubts and ridiculed their anxiety, assumptively declaring: "You have no more reason to doubt that the sun will rise in the heavens to-morrow, than you have to doubt that in less than ten years from the time England inaugurates the glorious era of free-trade, every civilized community will be free-traders to the back-bone."

The facts are, England alone excepted, "every civilized community is for protective tariff to the back-bone," including nearly every British colony.

Another dogmatic assumption of Mr. Cobden's of about the same date:

"Adopt free-trade and there will not be a tariff in Europe that will not be changed in

less than five years to follow your example."

The facts are "every change has been in the interest of protection." In 1882 in the English House of Commons, Mr. Ritchie's motion for "Fair Trade vs. Free Trade" was lost by only 51 votes, a change of 26 votes would have carried protection in England.

Sir Robert Peel in 1844 prophesied:

"Depend upon it, your example will prevail. Reason and common sense will induce relaxation of high duties. I see symptoms of it already."

The truth is "reason and common sense" have rejected free-trade everywhere except in England.

Mr. Bright fails equally as a prophet, writing to the Chicago Tribune, a free-trade organ, in 1867, he said:

"All the countries of Europe are tending to free-trade."

Another assumption; and again the facts refute the prophecy. Several of those countries have adopted the American system of protecting home industries and encouraging home manufactures and home labor, with results fruitful in benefits to both their capital and labor, but palpably detrimental to England, where so clearly is this fact proven, that "retaliatory duties" is the present war cry of many of the former free-traders of England under the cognomen of "Fair Trade." I will allude to Germany presently.

Again Mr. Bright said in 1877:

"If we look into France we see that protection is becoming weaker. If we look at the United States or consult any intelligent American, we shall find that there it is shaken and tottering to its fall."

The facts again refute the assumption. France maintains its high protective tariff, and, while I am speaking, is about passing stringent corn laws.

"Political Economy" is studied and tested, not summarily swallowed by Frenchmen. One of their statesmen calls political economists "the authors of a literature, unsatisfactory, obscure, presumptuous, and which would be dangerous were it not tedious and ridiculous."

Adam Smith is no more reliable as a prophet than those who so blindly accept all his utterances as infallible. In his "Wealth of Nations," book 4, chap. 2, he says:

"Even the free importation of corn (into England) could very little affect the interest of the farmers of Great Britain. * * * If there was no bounty, it is probable that one year with another, less would be imported than at present."

Another foolish assumption, and tested by facts its folly is made apparent.

When that statement was made Great Britain imported 190,000 bushels in a year, whereas, even in 1877, she imported 252,000,000 bushels or a thousand times more than Adam Smith's prophecy or assumption.

In no country in the world have "farmers been so badly affected as in Great Britain, where agriculture is literally ruined, and farm laborers have been reduced to such a dismal, degraded level, as to excite horror in every well regulated mind; their average wages having been forty cents a day with which to supply rent, fuel, food, and clothing for himself and family. An American (Christian) minister, an advocate of free-trade, after witnessing his condition in England, says: "his end is generally the work-house." A Scotch missionary, Alexander Duff, horrified at the condition of farm laborers, attacking a nobleman, received the

reply: "My dear sir, I rent my lands in mass. I have no more to do with the pay or the treatment of the laborers than I have with those on the estates of the Earl of Shaftesbury. I cannot touch this mass of England's poverty."

In view of such replies I ask, what have the House of Lords and Commons ever done for the promotion of the general welfare of the people of England? This is no exaggeration, I will quote to you from Fawcett's Political Economy, pp. 192 and 193, genuine English authority; "There are few classes of workmen who in many respects are so thoroughly wretched as the English agricultural laborers. They are in many respects so miserably poor that if they were converted into slaves to-morrow, it would be for the interests of their owners to feed them far better than they are fed at present. Throughout large agricultural districts not a single agricultural laborer will be found who has saved so much as a week's wages. A life of toiling and incessant industry offers no other prospect than a miserable old age." "In England, the laboring man is lucky if he escapes ending his days in the work-house," says Thomas P. Burt, M. P.

Now as to Germany. The German chancellor realized the national danger of adopting "political economy," as expounded by free-trade votaries, whom he styled:

"*Doctrinaires*, clergymen and lawyers, but few of whom know anything of the details of public affairs, are generally on that side, (free-trade) and they are led by those who know nothing on the question, but what they have learned from the books of men who have plausibly formulated impracticable nonsense. I have had much annoyance from blockheads who ask impossible answers to irrelevant questions, and as the French proverb says, 'Go about seeking for noon at 2 o'clock.'"

Referring to the condition of the United States and contrasting our condition with the countries of Europe, he said:

"While the American Republic was enjoying this peculiar prosperity, the countries of Europe, which America most relieved by absorbing their unemployed population, were apparently continually getting worse off."

With that terseness and saliency so characteristic of Prince Bismark when he talks he said of certain theoretic experiments: "We found out when it was too late that we had put only hot water into our soup-boiler." To the Reichstag he said: "The time has come when Prussia must follow the example of the United States, and adopt a protective tariff to ensure her prosperity." Prussia did it and prospered under it.

Mr. Beaufort Huribut, M. P. for Canada, author of an excellent work on "Protection," after stating that "Free Trade" is no longer regarded by Englishmen as the worship of Brama is by the Hindoos, a matter of devout contemplation, only too sacred for discussion, says:

"When foreigners see manufacturers dying out under free trade in England, and springing into vigorous life under protection in France, Germany, Belgium, America and Canada. When they see the ruin of industry, the depression of all manufacturing interests, operatives emigrating, capitalists preferring investments in foreign countries to those of their own; they do not look much further for arguments against free trade."

See Holland with her free trade, once the naval mistress of the ocean; brooms borne at the mastheads of her ships defiantly threatening to sweep the seas. To-day a petty

power, scarcely felt in Europe; her manufacturing power destroyed; her people imploring their King to pass a protective tariff to avert impending danger. England, maintaining, for centuries (until recently) the highest protection, has swept the Dutchmen from the ocean. But England, adopting free trade, is now imploring the United States to lower its tariff, crying, "Save me Cassius, or I sink." Even Gladstone, replying to a delegation of free traders, says:

"Gentlemen, have compassion on me while a minister of the crown, and after that I will go with you strong on the abstract principle, although utterly impracticable in the affairs of terrestrial kingdoms. I warn any terrestrial government against adopting free trade."

Benjamin Disraeli, afterwards Prime Minister of Great Britain, warned the English free traders, when they were in the hey-day of their false glory of prophecy, as to the results to follow free trade:

"Gentlemen, the time will come, when the working-classes of England will come to you on bended knees, and pray to you to undo your present legislation."

English history and English condition of labor and industry, proves Disraeli to have been right, and Cobden and Bright to have been wrong. As one writer says, "thirty-nine per cent. out of forty of mankind the world over are advocates of 'protection' and opposed to 'free trade.'" Goldwin Smith embodies the whole truth itself:

"Free trade still stands pretty much where it stood on the morrow of the reconciliation of Cobden and Peel. Their visions—Cobden's at least—have not yet been fulfilled. * * * England, while she preaches free trade, and thinks all the world demented because it will not listen to her preaching, is herself not a Free Trade Nation. She raises £20,000,000 (\$100,000,000) by import duties, which, though admirably well adapted to her special circumstances, are not less interferences with freedom of trade. Every nation has its tariff, every nation will continue to have its tariff, so long as money for establishments and armaments are required, and for tariffs as was said before, there is no substitute, each country must be allowed to frame its own. Cobden assumed that the world was a single community; he could not bring the human race to that far-off goal of humanity."

Our tariff system can be best tested by its results, to which Mr. Bright bears testimony,

in his contrast between the condition of labor under free trade in England, and American labor under protection in the United States. Mr. Bright said, addressing English workingmen:

"One of the most painful things to my mind to be seen in England is this, that among the great body of those classes which earn their living by their daily labor—it is particularly observable in the agricultural districts, and it is too much to be observed even in our own districts—there is an absence of that hope which every man ought to have in his soul that there is for him, if he be industrious and frugal, a comfortable independence as he advances in life. In the United States that hope prevails everywhere, because everywhere there is an open career; there is no privileged class; there is complete education extended to all, and every man feels that he was not born to be in penury and in suffering, but that by his honest efforts there is no point in the social ladder to which he may not fairly hope to raise himself."

And, again, in speaking to English workmen he said:

"There has always existed among all the population an amount of comfort and abounding prosperity, such as I believe no other country in the world, in any age, has displayed."

My friends, I will conclude my allusion to the blundering false prophecies and predictions of the English free-traders with that distich familiar to some of you:

"Old politicians chew on wisdom past,
And totter on in blunders to the last."

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This being the holiday season, we publish an unusually large amount of amusing miscellaneous matter.

Dr. Cowan's "Science of a New Life" should be read by every man twenty-one years of age. It is a scientific work in plain language that anyone can understand. See descriptive advertisement on another page.

MR. A. T. BALLENTINE has resigned his position as superintendent of the shops of the Cummer Engine Co., Cleveland, O., and will hereafter devote his entire attention to the Ice Machine Department of that company. Mr. Alfred Clarke has been appointed to take the position of Superintendent.

THE YOUTH'S COMPANION, published by Messrs. Perry Mason & Co., Boston, Mass., has evidently become a great favorite with the young people of this country, for it now boasts of a regular subscription list of 340,000, a showing which we believe cannot be equalled by any other similar publication. Merit has done it. We can pay it no higher compliment. It is in every sense a *clean* paper which parents may be pleased to see in the hands of their children. The subscription price is \$1.75 per year. By special arrangement with the publishers, we can supply the U. S. MILLER and the Youth's Companion for one year for \$2.50.

The article in the January *Harper's Magazine* which is likely to be most widely read, though perhaps not most popular, is the last word of Gen. McClellan to his countrymen on "The Army and the militia."

We will send the American Miller, The Northwestern Miller (weekly) and the U. S. Miller for one year for \$3.00.

E. W. ARNDT, Esq., of DePere, Wis., Secretary of the Wisconsin Millers' Mutual Fire Insurance Company, made us a pleasant call Dec. 12.

THE LONG WINTER EVENINGS.

We think sometimes that winter with its long winter evenings is of greater importance to thoughtful persons than any other season of the year. The long winter evening seems to be peculiarly adapted to reading, writing, studying, drawing and similar indoor occupations. We believe most heartily in all kinds of innocent amusements as beneficial to both mind and body, but any amusement ceases to please if indulged in too often. We have these long evenings with us now, and we hope that our younger readers will profit by them, as they certainly will if they try.

THE MOVEMENT OF WHEAT CULTURE.

The report of the Commissioner of Agriculture for the month of October has the following: The western movement of wheat growing, the local rise and decadence of wheat culture, have excited comment for a generation. The facts are that pioneer cultivation in this country tends to wheat-growing, and agricultural progress introduces

other crops and destroys its prominence without necessarily reducing the quantity of the wheat grown. Thus Genesee was a prodigy of production and a synonym of bread supply a generation ago. It still produces wheat, almost as much as in the height of its bread-making fame. The wheat fields of Ohio, of Southern Michigan, of Western Illinois, are distributed more among other crops than formerly, with some regard to systematic rotation, and with results as good as those of pristine fertility, except where negligence and bad management prevail. It is in the prairie districts, where new lands are open for superficial cultivation, and ready money for farm improvement is the prime and almost only consideration, that the rate of yield is declining.

It is a wasteful, a slovenly mode, but it has not permanently exhausted the soil. That is often asserted, but it is too strong an expression. It is injurious to the soil, filling it with seeds of weeds, and finally unprofitable, giving place to variety of crops, to grass and farm animals, and leading to higher fertility and better profits. This change is going on in Wisconsin and Nebraska, and is commencing in Dakota; it is well advanced in Iowa, and progressing in Nebraska. All of the fertile states of the Missouri are to be very prominent in meat production, yet the cultivation of wheat is not to be superseded. It will be less prominent relatively, but not necessarily less in volume, as population advances. The rise of dairying in the ten years past in this section is a relation of progress that will diversify the agriculture of the Northwest more and more, and add immensely to the production, the wealth, the material and political importance of this fertile central area.

Mr. William J. Langson, secretary of the Milwaukee Chamber of Commerce, in his report for 1885, refers to the decadence of Milwaukee as a wheat market, to the former boast in local oratory of having the greatest spring wheat market of the world, and to his prediction thirteen years ago of ultimate loss of this pre-eminence. He is wise, either from an agricultural or commercial point of view, in declining to mourn over the change that has occurred. He says: "I further ventured the prediction that when this happened the capital engaged in the handling of wheat would find other channels of investment which would do more to build up our city on a more substantial basis than the wheat business, which in its nature is changeable and unsatisfactory. This has taken place, while our trade has really fallen off but little in the aggregate, if we include flour, and the quality of our wheat is still better than that of our Southern neighbors; still we no longer tower above the other cities as we did years ago. I for one am not inclined to lament over this, for it merely proves that the great region more directly tributary to Milwaukee, instead of increasing its production of wheat, has now capital enough to diversify its agriculture, and shows that our farmers are no longer satisfied with scratching the ground or planting a few kernels of wheat year after year, but are now rich enough to produce cattle, cheese, chickens, and butter, and all the other multifarious products adapted to our climate and soil."

THE ONE STAVE BARREL.

On the west side of the River Rouge, about three miles beyond the western limits of Detroit, on a site embracing between 15 and 20 acres of land, the Anchor Mfg. Co. has built and is erecting several buildings for the manufacture of barrels by a new process. Hugh Mattullah is at the head of the institution, and associated with him as stock holders are Alanson Sheley, A. B. & W. F. Linn, A. S. Brooks, the Candler Brothers, Peltier & Belanger, George W. Moore, Chas. E. Cottrell and William P. Fuller. The company has a paid up capital of \$500,000. The establishment is now turning out 6,000 barrels per day, and will soon be making twice that number. While the size and shape of this barrel are the same as the ordinary kind, the body of the barrel consists of a single sheet of timber held by hoops. The timber used is elm, which is cheap and abundant. Canada is the main base of supplies and timber hunters sent there have already arranged for a year's supplies for this establishment. The logs will be rafted over during the season of navigation and brought by rail in the winter time. The logs are taken from the boom or yard into the sawmill and cut into two barrel lengths. Thence they go into a steam-chest where they remain until thoroughly steamed. In this condition the log is converted into thin sheets, or veneering, used in the body of the barrel. By a special process a two-foot log becomes rolls of wooden sheeting in a minute's time. There remains upon the mandrels an eight-inch core which is utilized in making barrel heads. The sheets go next to a sanding machine, by which both sides are made perfectly smooth. After passing through a cutting and grooving machine they are so cut by a goring machine as to adapt them to the shape of a barrel. Thence they go to a drying house. The latter is a building 50x400 feet heated by steam. From the dryhouse they go to the sizing saws, where they are cut the desired length, when they are ready for the cooper shop or for shipment. They are shipped in bundles and in the 'knockdown,' to be put up at the point of their destination. Three thousand of them can be stored and forwarded in an ordinary box car. The headings are shipped in barrels. The factory is full of the finest machinery, and not a little of it is the product of Mr. Mattullah's ingenuity. The engine and boiler rooms are of brick, the other structures frame. Other improvements are projected. A boarding-house, 84x80 feet in size, will be put up, and the company contemplate the erection of a number of additional cottages to be occupied by their workmen. The factory is now running with a force of about 100 men.—*Detroit (Mich.) Journal.*

* Before subscribing for any paper read the U. S. Miller club list on another page.

TRADE SCHOOLS.

In a recent address by Prof. Thurston, of Cornell University, delivered at Scranton, Pa., he said: "At Bloomfield, New Jersey, the authorities are introducing most successfully a course of instruction of both boys and girls in the use of tools into their public school system. A manual training school affords a means of rewarding merit at Girard College, where the best students and

most promising youths are admitted into the wood-working and machine shops under instruction, and there, under the careful and skillful tuition of expert mechanics, I have seen boys of twelve doing work at the vise with hammer and chisel and file that many an old workman might be glad to rival. The city of Chicago has a manual training school; at St. Louis, Washington University is doing excellent work in well appointed shops. Boston, in her great Institute of Technology, beside the classes of aspirant mechanical engineers, has organized other classes of boys ambitious to learn the use of tools, and is cultivating the special Yankee talent in a systematic and fruitful manner; and all over the country these primary technical schools are springing up."

"A year or more ago, I received a letter from a capable and successful superintendent of schools in a Western city, saying that he had seen plainly the approach of the new era in primary education of the people for the work and life of the people; and desired to be ready for its advent in his own city, and asking to be instructed that he might intelligently direct the changes of method and system inevitably to come in his own organization. He came East and worked in the shop and studied under instructors all summer to obtain the requisite knowledge and skill. Fortunately, he proved a natural mechanic, and an extraordinary capable man, and he is now ready to lead in the movement when the looked-for time shall arrive.

"Trade schools now form a part of every school of engineering, and schools of engineering are springing up all over the land."

We will send the Scientific American (weekly) and the U. S. Miller for one year for \$3.50.

SOMETHING ABOUT LEATHER BELTING.

A well known manufacturer of leather belting says: Having been engaged in the manufacture of oak leather belting for the past fifteen years, I would respectfully call attention to the essential points necessary to the manufacture of good belting, the first of which is the selection of the leather, which should be oak tanned, it being more pliable than any other, and as durability is required, it should be thoroughly tanned and made from young hides, they having more strength than the hides from old animals. Leather chosen, though it may be ever so good, may be spoiled in currying, and as this is an important part, it is conducted under my own supervision, where I have the shoulders cut from the hides, and nothing but four feet in length of the choice butts, curried for belting purposes, as the shoulder naturally stretching in a different direction from the butts, causes that great annoyance in factories of belts running crooked. The putting on of belts should be done by a person acquainted with the use of belting, and too much judgment cannot be exercised in this respect, as the wear of the belt depends considerably on the manner in which it is put on, therefore the following suggestions, if practiced, will be of much service to persons employed in this capacity. The butts to be joined together should be cut perfectly square with the belt, in order that one side of the band may not be drawn tighter than the other. For the join-

ing of belts good lace leather, if properly used, being soft and pliable, will always give better satisfaction than any patent fastening or hooks which have yet been invented.

Where belts run vertically, they should always be drawn moderately tight, or the weight of the belt will not allow it to adhere closely to the lower pulley, but in all other cases they should be slack, in many instances the tearing out of lace holes is often unjustly attributed to poor belting when in reality, the fault lies in having the belt too short, and trying to force it together by lacing, and the more the leather has been stretched while being manufactured, the more liable it is to be complained of. All leather belting should occasionally be greased with the following mixture or it will become dry and will not adhere to the pulleys: one gallon neat's-foot or tanner's oil, one gallon tallow, twelve ounces resin, dissolved by heat and well mixed together, to be used cold, the belt having been previously dampened with warm water, except where it is spliced together. During the winter season, an extra quantity of oil should be added to the mixture. To obtain the greatest amount of power from belts, the pulleys should be covered with leather, this will allow the belts to be run very slack, and give 25 per cent. more wear. I drive a large circular saw, requiring 15-horse power, with a very slack belt, the pulleys being covered with leather. For heavy counter belts, not intended to be used on cone pulleys, or at half cross, I recommend double belts, made from shoulders only, which I furnish at the price of single belting; and as the stretch is taken out from the shoulders after they are cut from the side, they are guaranteed to give better satisfaction as a counter belt than a single belt will.

More power can be obtained from using the grain side of a belt to the pulley than from the flesh side, as the belt adheres more closely to the pulley; but there is this about it, the belt will not last half so long, for when the grain which is very thin, is worn off, the substance of the belt is gone, and it then quickly gives out; so that I would advise the more saving plan of obtaining power by driving with wider belts, and covering the pulleys with leather. Where belts are to run in very damp places, or exposed to the weather, I would recommend the use of rubber belting; but for ordinary use it will not give the satisfaction which is so generally obtained from using oak leather belting, as it cannot be run on cone pulleys through forks or at half-cross, and with fair usage would be worn out, while a leather belt was regularly performing the work allotted to it; for when the edge becomes worn, the belt soon gives out.

THE story is told that not long ago a ranting Chicago Communist gathered a crowd, and entertained them with his diatribes on the inequalities of riches and poverty. He was in the midst of his fiery declarations that the capital of the rich belonged to the laboring classes, when a clear voice rose from crowd: "You've got a gold watch and I haven't any. I want yours." The speaker was nonplussed. Recovering himself, however, he said, "I bought the watch and paid for it." "Don't make any difference," persisted the voice; "you've got a gold watch and I haven't—I want it!" The talker was checkmated and the meeting broke up.

MILLING NOTES—PRACTICAL AND THEORETICAL.

BY GEORGE MILLER.

In my last notes I stated that there were many things besides a bad yield which go to swell the cost of producing a sack of flour. For instance, there is power, light, labor, lubricant, stoppages of mill, repairs of same, and many other expenses incidental to the work of manufacture, which has all to be paid out of the profits made on the flour. Now all of these come under the head of the mill manager's responsibilities, and all are subject to wanton waste or economy on the part of the millers. Then we have insurance, taxes, depreciation of plant and interest on plant account, or mill rent, as the case may be, travelers' salaries and expenses, or agents' commission, maintenance of horses and keeping up of rolling stock, etc. All of which, although they may not be directly within the pale of the mill managers' responsibilities, has all to be made out of his flour before any net profit can be realized. A few practical remarks on these several items of expense may not be uninteresting.

First, then, as to power. There is a wonderful difference in the cost of this item, as influenced by the engine and boilers. We need not refer to the setting of boilers or the construction of engines; these are supposed to be above the mental capacity of millers, and we have in consequence, no voice in the matter. We must not speak of the latent or sensible heat of steam, the number of cubic feet procurable out of a cubic foot of water, the points of temperature at which water will boil under different auspices, for instance in a vacuum under the pressure of mercury, or under common pressure, the use and effect of the lever upon the safety valve, the elastic force of steam upon a circular or square inch, calculations of steam power by cylinder indication, the diameter and velocity of piston in relation thereto, the length of stroke as influencing the power, the apertures of steam ways and slide valves as related to the eccentric, the cold water and air pump, the condenser, the length of stroke in commensuration with the length of beam, the connecting rod in commensuration to the length of stroke, the peripheral velocity and weight of a fly-wheel as affecting back-lash or centrifugal force, the parallel motions, governors, etc. Now these are all technics of the engine which may in some measure affect the cost of producing a sack of flour, and they are nice points for the intelligent and scientific calculator to enunciate, but I have no doubt that I will be told they are beyond my mental calibre, and any attempt at an elucidation of the problem would be denounced by my acrimonious critics as a mere chimera. But I can well afford to allow the vindictive verbiage of those puny pseudo millers to stew in its own juice. Nevertheless, we cannot remain quiescent even in these matters if we know them to be wrong, and more especially if we know them to be interfering with our work. We will speak first of the firing, which is certainly within our province. The expense of power is much influenced by the manner in which this is done. For example, irregular and unintelligent firing will consume more coals per horse-power than if it be done with regularity and intelligence. Dirty boilers will also require more coals to keep up steam than clean boilers. Feeding the boilers with cold

water will take more coals per gallon to evaporate than if the water was previously heated; so also will boilers of limited capacity use more coals per horse-power than large and more commodious boilers. Then again, there is the subject of smoke consumption, which not only affects the consumption of coals, but by a superfluous expenditure of money on artificial smoke burners, it affects our cost of production by running away with the profits. Some hundreds of different contrivances have been brought before the public and pronounced perfect, but still the perfect artificial smoke burner has not emanated from the inventor's brain; and when we see great clouds of black smoke ascending from this, that, and the other stack, we cannot but reflect that this is simply the result of ignorance or forgetfulness in the stokehole. If a fireman has properly set boilers, and ample steam capacity in them, there is no necessity for artificial smoke burners. The fireman himself ought to be the absolute smoke burner. We know that under the auspices we have referred to a good and intelligent fireman is perfectly able to burn all the smoke he ought to make. We do not assume that he can burn it absolutely, but he can change its character and appearance so as to defy the interference of the meddling, officious sanitary inspector; and this is really the only grievance. Better far to pay for intelligence than superfluous smoke burners. Light and frequent firing is the road to economy in a boiler; heaps of coals should never be allowed to accumulate in the furnace; clinkers which are the result of imperfect combustion, are caused through this, and necessitate the too frequent use of the poker and clinker bar; whereas, intelligent firing in a great measure dispenses with these implements. All boilers should be blown out with a sludge-cock at least twice in every twenty-four hours, so as not to allow the water sediment to settle down to scale on the bottom, and they should also be thoroughly cleaned out once in every week. The engines of our mills do not as a rule have the amount of intelligent attention paid to them that they ought to have. The majority of them are still of an antiquated type—very few have advanced beyond the long stroke and side valve, and many have still the old-fashioned tapit valves for steam application. The modern automatic expansion valve is peculiarly rare in our mills, and what is more peculiar, some who have them do not use them, which we look upon as proof positive of the absence of intelligence in the operating of our engines. Steam expansion, however, cannot be extensively used in a flour mill. No manufactory requires such steady power as our mills do. Much lap upon the valves of a single engine is sure to cause a severe back-lash upon the machinery, and although not so destructive in double as single engines, nevertheless, it more or less affects all. Now, next in bad effects to unequal feeding is this back-lash. It is one of the most aggravating things we have to contend with, and very few mills are clear of it, because a slide valve having no expansion lap at all, merely covering the apertures when the valve is at the middle of the stroke, will, on account of the nature of the motion, cut off most of the steam at $\frac{1}{2}$ stroke, the remaining quarter, as a matter of course, traveling home expensively. Hence the natural expansion is nearly all that can be used economically in a flour mill. No

doubt expansion will save coals, but if the value thus saved is doubly lost in tear and wear, it cannot be true economy. A very conclusive evidence of this came under my notice; it was a mill which I went to take the management of. When I got there I found a would-be scientific engineer had been experimenting on the engine valves, with a view to the saving of coals. It was a condensing beam engine of 50 nominal horse-power, and had double-beat steam valves. This expert had shifted and shifted those valves, until the crank would scarcely go over the top centre at all; a dead stop was quite visible to the eye every time it came to the top centre, and a 20ft. diameter meal-cooler, which made only six revolutions per minute, ran hop, step and jump, like a cart drawn by a horse with only three legs, the streak pole coming to a dead stand every time the crank came to the top. Very soon the first motion wheels were smashed, and the wall between these and the fly-wheel was shaken to pieces. Ultimately new wheels and a new hewn stone wall was decided upon; but after all this was done, at a very great expense, it was no better, nothing could stand the strain, and at last the lap had to be taken off the valves, which exposed the great blunder that had been made. Another striking example of this came under my personal observation. This was a pair of McNaughten's compound beam engines, working on one shaft, at a stroke differentiation of quarter of the circle. This is supposed to entirely do away with the back-lash, by the one crank pulling the other over the centres. We were short of power to make the quantity of flour wanted, viz.: 1,000 sacks per day, and the suggestion was made to speed the engines to gain the required power, and work them expansively so as to keep down the consumption of coals. It was a big job, and cost a lot of money; all the counter wheels had to be broken off the main shafts, and replaced with new ones, to suit the stone-speed. The cylinders were re-bored, new pistons and new side valves were put in, and notwithstanding that a protest was made against it, a long expansion lap was put on the side valve. This literally spoiled the whole thing; previously this mill was one of the sweetest running, and in all other respects had scarcely an equal in the United Kingdom; but after this its whole character was changed.—*The London Millers' Gazette, and Corn Trade Journal.*

FIVE thousand people have been drowned and 150 villages submerged in Orissa, India, by a cyclone, and 1,241 square miles in the Moorshedabad and Hudea districts have been devastated. A tornado swept over the Philippine Islands on Saturday. Eight thousand buildings, including numerous churches and school-houses, were destroyed, and twenty-two persons were killed.

THE Irish people, at home, consume a large amount of tobacco, but not a pound of it is ever grown in Ireland. Yet it is said that the land in many parts is well adapted to it, and it is estimated that an average profit of \$225 an acre could be easily made at it. And what is the obstacle? Nothing but an old law, made in Cromwell's time, which designing to foster the tobacco plantations in the American colonies, decreed that no one should grow the plant in Great Britain and Ireland.

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NONSENSE.

YOUNG Bilkins was utterly devoted to business, but somehow found time to fall in love and ask the girl to marry him. The time was set and he called on the old gentleman to get his consent. He had a long talk and came up to see the girl.

"Well," she said in considerable anxiety, "what did pa say?"

"He said that wheat was going up and there was a fine chance for a man to make a handsome little dot."

"Pshaw! Didn't he say anything else?"

"Oh, yes, we talked about a dozen ventures that might be made, with an excellent chance of coming out ahead every time."

"Bother the business! What did he say when you asked him if you could have me?"

"Wha—wha—what?" he stammered.

"Why, what did he say about me?"

"By George, Mary, I forgot all about it. I'll go the first thing in the morning and see him about it."—*Merchant Traveler*.

A FROG who had long dwelt in a pond near a peasant's cabin was one evening highly delighted to hear the peasant remark to his wife: "Have you noticed how beautifully that frog sings?"

The speech tickled the frog amazingly, and he at once began his tune and kept it up all night long. At daylight the peasant came out with a club and called out: "If you don't leave here forthwith, I'll be the death of you?"

"What have I done?" asked the astonished frog.

"Kept us awake all night with your croaking."

"But it was only last evening that you complimented me on my song."

"That is true, but I heard only brief songs and at long intervals."

MORAL—It is a dangerous thing to compliment a man who makes the opening speech at a ward caucus. Nine times out of ten he'll want to go to the legislature.

SHE was a Brooklyn girl. He was a young man from Boston visiting at her home. In honor of his coming she had made a custard pie with her own fair hands.

"Do take some," she urged, at the supper table. "I made it for you myself, you know."

"No," said he reluctantly, after an evident inward struggle, "I cannot; if I were at home at Boston I would, but here I dare not."

"And why?" she urged, "why, dearest, can you not eat it here?"

"Because," he answered with a deep-drawn sigh,—"because now we are in New York, you know, and an attempt at suicide is a crime under the New York laws."—*Somerville Jour*.

"Oh, say, ma!" exclaimed a bright little girl at the Hoffman house, while at dinner, "hasn't that man over there got awful big ears?"

"Hush, child; the gentleman might hear you," cautioned the mother.

"Well, ma," returned the precocious youngster, "if he couldn't hear me with those ears, he ought to haul them down."—*N. Y. Jour*.

I NOTICE however much a girl struggles when you try to get a kiss, if she hears her pa's step approaching, she always lets up on the struggle long enough to nab the kiss before the old man appears.

I NOTICE, no matter how homely a woman may think her husband is, she always takes

it as a gospel truth that her new baby is the prettiest in the world, and "looks just like its father."—*St. Paul Herald*.

AN Irishman employed about a shop in Atlanta was one day surprised and delighted by the entrance of an old acquaintance. After ten minutes' jollification the friend left, when Pat's employer said to him:

"So, Pat, you knew that chap in your own country, did you?"

"Och, an' shure did I, an' it's a lucky day I met with him here. It's a fine boy he is, wid all his family. His grandfather was a general—his father was a general—and he'd been a general hisself if he had not come away."

"But what was he after in your pockets! I thought I saw him put his fingers there rather sllly."

Clapping his hands to his pockets, Pat ascertained that both watch and pocketbook were missing.

"Murder!" he cried, gesticulating like a whale with a dozen harpoons in his side. "The thafel the spalpeen! the coorse! I knew him well, wid all his family. His grandfather was hanged—and his father was hanged—and he'd been hanged hisself if he'd not run away."—*Atlanta Constitution*.

SAM JONES' STORY.—As told at the Methodist church Friday night it is as follows: "There was a married couple with half a dozen children and only one bed. The whole family slept on that bed—and were so thick that one couldn't turn over unless all did. So when anyone got tired sleeping on one side he'd say 'turn'—and over the whole family went. They got so used to it that even when they heard the word 'turn' in their sleep they would hustle over. One day the old man was fishing on a log bridge over the river. The sun was hot and the fish wa'n't biting, and he fell asleep balanced on the log. One of the boys saw him and thought he would try a joke, and hallooed out 'Turn!' Over the old man went kerflop into the water. Now I want the temperance men to halloo 'Turn!' until the anti-men who are asleep on the bridge over the prohibition river will hear it and drop in."—*Atlanta Constitution*.

HE was complaining in the most bitter manner about the size of his gas bill, when the fat, bald-headed man in the corner of the car remarked:

"I have burned that same company's gas for thirteen years, and never had to complain."

"Ever change your meter?"

"Never."

"How often have you had it tested?"

"Not a single time."

"Well, well! Never overcharged you?"

"No."

"And you are perfectly satisfied?"

"Perfectly."

The fat man got off at the next corner, and the other observed to his left-hand neighbor:

"Who do you suppose he is?"

"Oh, I've known him for years. He's the president of the gas company you mentioned!"—*N. Y. Independent*.

THE WORST ONE YET.—He opened the door and gazed long and furtively at the clerk, and finally choking down a sob, he said: "Say, mister, has Kate been here this morn'ing?"

The clerk looked at him for a minute and asked: "What Kate?"

Then with a smile such as you receive from the man who sells you a glass of red lemonade at the circus, he answered: "Roller's Kate."

A METROPOLITAN policeman stopped the music at a dance in a house on his beat, because he couldn't sleep when such a noise was going on. Some people seem to think a policeman hasn't anything to worry him.

A DANISH tragedian was recently greeted with a shower of decayed eggs while performing Hamlet in Copenhagen. He believes now, more than ever, that Shakespeare was right when he said there was something rotten in Denmark.

"How is this, Doctor; you charge me five francs a visit?"

"It is less than I charge anybody else."

"That may be so; but then you forget that it was I who introduced the smallpox into the neighborhood."—*L'Independence Belge*.

AN advertisement extolling the virtues of a new make of Infants' Feeding Bottle, winds up as follows: "When the baby has done drinking it must be unscrewed and laid in a cool place, say under a tap." Poor baby!—*La Flandre*.

We will send the U. S. Miller and Northwestern Miller for one year for \$2.50.

IMAGINATION AND DYING.—In reference to the influence of the imagination on the body a doctor tells the following story in the *Chicago Times*: "A big hulking fellow about 10 miles from the town I was practicing in got the idea that he was going to die at just 11 o'clock in the forenoon of a certain day. About 9 o'clock a messenger came for me. I hurried out. When I got there the crank had 15 minutes to live according to his calculations. He did look like a man on the verge of eternity. His eyes were dim and sunken, his face had that peculiar pallor which heralds the near approach of death, and his breathing was very labored. The family were gathered around and weeping as they took a final leave. Something had to be done quick. There was a smart-looking woman there, and I called her aside. Pointing to a clock on the mantel-piece, which the patient was watching, I said: 'When I have his attention turn that ahead.' Then I crowded into the family group, bustled them into the next room, sat down upon the edge of the bed and began telling that fellow one of the most horrible murder stories you ever heard. I located it right in the town where he knew everybody, named the woman killed, went into blood-curdling details, and so completely interested the man that he forgot his 11-o'clock appointment. When I gave him a chance to look again it was 20 minutes to 12, and he was actually mad for a time, claiming he had been tricked. He finally got to laughing, and we all took dinner together. The next day he whipped two men at a barn-raising for twitting him about the programme of death that miscarried."

THERE was a miner in Cornwall who was an inveterate smoker for over fifty years; but the other day he suddenly and definitely gave up the habit. He knocked out the ashes of his pipe into a keg of blasting powder. The coroner's jury sat upon two bones and a brass button.—*London Tobacco*.

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UNITED STATES MILLER.

PUBLISHED MONTHLY.

OFFICE NO. 124 GRAND AVENUE, MILWAUKEE.

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MILWAUKEE, JANUARY, 1886.

ANNOUNCEMENT:

WM. DUNHAM, Editor of "The Miller," 69 Mark Lane, and HENRY F. GILLIS & Co., 449 Strand, London, England, are authorized to receive subscriptions for the UNITED STATES MILLER.

We send out monthly a large number of sample copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES MILLER to you for one year. SEE COMBINATION OFFER ON OTHER PAGES.

The United States Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertising therein, by placing it in their offices, where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive communications for publication from Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.

TO ADVERTISERS.

Milwaukee, Wis., Jan. 1, 1886.

To Those Interested in the Flouring Trade:

THE UNITED STATES MILLER is now in its tenth year, and is a thoroughly established and much valued trade paper. It has a large regular list of domestic and foreign subscribers. It is sent monthly to United States Consuls in foreign countries, to be filed in their offices for inspection by visitors. It is on file with the Secretaries of American and European Boards of Trade for inspection of members. Aside from the above, thousands of SAMPLE COPIES are sent out every month to flour mill owners who are not subscribers, for the purpose of inducing them to become regular subscribers, and for the benefit of those advertising in our columns. Every copy is mailed in a separate wrapper. Our editions have not been at any time since January, 1882, less than 5,100 COPIES each, and are frequently in excess of that. We honestly believe that the advertising columns of the UNITED STATES MILLER will bring you greater returns in proportion to the amount of money invested than any other milling paper published. Advertisers that have tried our paper for even a few months have invariably expressed themselves well satisfied with the results. Our advertising rates are reasonable. Send for estimates, stating space needed. The subscription price of the paper with premium is One Dollar per year. Sample copy sent free when requested. We respectfully invite you to favor us with your patronage. We shall be pleased to receive copies of your catalogues, and also trades items for publication free of charge. Trusting that we may soon be favored with your orders, we are,

Yours truly,

UNITED STATES MILLER.

E. HARRISON CAWKER, Publisher.

Affidavit Concerning Circulation.

STATE OF WISCONSIN, } ss.
MILWAUKEE COUNTY.

E. HARRISON CAWKER, editor and publisher of the UNITED STATES MILLER, a paper published in the interest of the FLOURING INDUSTRY, at No. 124 Grand Avenue, in the City of Milwaukee, and State of Wisconsin, being duly sworn, deposes and says that the circulation of said paper has at no time since January, 1880, been less than FIVE THOUSAND (5,000) copies per month; further, that it is his intention that it shall not in the future be less than FIVE THOUSAND copies each and every month.

Sworn to and Subscribed before me at Milwaukee, Wis., this 26th day of November, A. D. 1885.

G. McWHORTER, Justice of the Peace.
E. HARRISON CAWKER, Publisher.

NEW YEAR'S GREETING TO OUR PATRONS.

The proprietor of THE UNITED STATES MILLER, wishes all its patrons a Happy New Year. For the generous patronage bestowed upon it, as shown by its largely increased subscription list, during the past twelve months, he returns his grateful thanks, and promises that every endeavor will be made to improve and make better in every way, THE UNITED STATES MILLER for 1886.

We would call especial attention to an article in another column, relating to India wheat, etc., republished from the *New York Times*.

How many of our readers realize that the value of the eggs imported into this country from Canada the past year, were valued at two millions of dollars or upwards of eleven millions of dozens in number.

We will send the U. S. Miller for one year and Ropp's Calculator for \$1.00.

THE estimated amounts of butter and cheese made in the United States during 1885, are as follows: Butter, 1,000,000,000 pounds; of cheese, 800,000,000 pounds. The value would be, estimating the butter at 18 cents per pound, and the cheese at 10 cents per pound, nearly \$200,000,000.

FROM the first of August until the first of November, at Portland, there are shipped to points east of the Missouri River, principally to Milwaukee and Chicago, 8,569 tons of barley.

We will send The Milling World (weekly) and the U. S. Miller for one year for \$2.00.

THE UNITED STATES MILLER for January is fully as good as usual. We never have made any efforts for special editions and do not believe in them. This being the season of recreation and amusement, we have devoted much space to genuine wit.

WE have received the Holiday number of the *Northwestern Miller*, Minneapolis, Minn., and have no hesitation in saying that it is by far the finest of any publication of the kind that has come to our notice. It shows the result of artistic talent, business sagacity and genuine enterprise. We trust it will be the means of adding largely to the revenues of the publisher.

THE destruction by fire of the "Empire" and "Daisy" mills in Milwaukee, each a 500-barrel mill (per day), it was thought at one time would for a great length of time reduce the milling capacity of this city. But it seems otherwise. Messrs. Edw. P. Allis & Co., proprietors of the "Daisy," have purchased the "Northwestern," a mill of over 1,000 barrels capacity per day, but which for various reasons has been standing idle much of the time for the past two years. They will change it completely, and make a modern model roller mill of it. Mr. Lou. R. Hurd, formerly manager of the "Daisy," will, it is said, take charge of the new "Northwestern," and another gentleman of world-wide reputation in the milling trade, will probably occupy another very responsible position.

ALL persons connected in any way with the milling industry will find it a blessing to have a copy the UNITED STATES MILLER sent regularly to their address. We will send a sample copy of it free to all in the trade who may apply to us for a copy. You can examine it carefully, read our premium and book lists, and we believe that you will, after a fair inspection, feel that it is to your interest to subscribe. It only costs, with premium, one dollar per year. The UNITED STATES MILLER has been published nearly ten years, and the experience and knowledge gained by its publisher in that time is a sufficient guaranty of a valuable paper.

THE AMERICAN MILLER ANNUAL FOR 1886 is before us, and we must certainly pronounce it to be both highly useful and ornamental. It contains a large number of articles on various matters of use to millers, millwrights, mechanics and others on almost any occasion of ordinary or extraordinary occurrence. In short it constitutes a valuable ready reference book, produced in a beautiful manner, interspersed with a large number of advertisements.

THE MODERN MILLER HOLIDAY NUMBER is a model of beauty and general excellence, and is handsomely illustrated, and also contains some good stories.

OUR readers will find a very interesting article on the "Free Trade" side of the tariff question by Mr. J. C. Bates, of Chicago, prompted by a late article published in the UNITED STATES MILLER on "The Religious Aspects of a Fraudulent Tariff." You may expect a reply from Mr. John W. Hinton in our February number.

(Communication to THE UNITED STATES MILLER.)
"RELIGIOUS (?) ASPECTS" OF A FRAUDULENT
TARIFF.

BY J. C. BATES, CHICAGO.

To the initiated there is something supremely droll and irresistibly humorous in the arguments of that class of monopolists, who, from personal interest, and a desire to masquerade as public benefactors, style themselves "Protectionists." This is very much after the style of the Mormons years ago in Utah, who met together and resolved:

1st. The earth is the Lord's and the possession of His Saints.

2d. We are His Saints.

In just the same sense is the monopolist the public, or in favor of protecting and promoting any interests save his own. And he is never wanting in efforts to further his own immediate interests, and but too frequently succeeds in persuading a forbearing public, that his interests and theirs are identical, that a tariff framed in his especial interest "stands at the elbow of every laboring man to help him to better wages, to a more independent position, etc." The last number of THE UNITED STATES MILLER contained a lecture delivered in the interest of the monopolist and tariff by one who not only sought to persuade the dear public that it was a good thing to continue to submit to extortion and downright robbery, but would have the average citizen believe it to be his religious duty to do so, as is evidenced by the lecture

by John W. Hinton in Rockford, Ill., on the "Religious Aspects of Protective Tariff."

Not a few people have become impressed with the idea that the tariff is something akin to the Constitution—not to be meddled with or changed in any way. To others it is an enigma, while a great majority of people have become imbued with the idea that it is something entirely beyond their comprehension. It is to the latter altogether too modest class, that the lecturer particularly addressed his arguments. I said "too modest" for there are not many of that class, but would feel himself competent to act as a jurymen, to undertake to decide far more difficult problems of fact, if not by law, than any involved in this tariff issue. For what is our present tariff? It is substantially the tariff called into operation by the exigency, war; a mere temporary expedient for tiding the nation over that particular time. About every conceivable thing was taxed on the principle which ruled at the Donnybrook fair: "When you see a head hit it." And yet nearly a quarter of a century later the people of these United States are lectured by one "not native nor to the mannerborn" on their religious obligation to continue in operation the principal features of that war tariff.

People who look into tariff questions are fully cognizant of the fact that where the duty is so high that it prohibits importation, the government does not receive any revenue from the articles so taxed. But, Mr. Smith and others, who make these articles is by reason of the tariff being kept at that figure, in a position to compel me to pay him an enormous profit on such of his articles as my necessities compel me to purchase. If there are people in the heathen countries, who prostrate themselves willing victims before the care of Juggernaut, there is no reason in this country why those, whose credulity has so long been trifled with, should longer fall prone in abject submission before the gigantic monopoly, which crushes them, much less sing praise to monopoly, while being crushed and ground under by it.

If protection, protects, then that which does not protect the community is *not* protection. Whose interests outside of a comparatively few monopolists does the tariff protect?

Pennsylvania may be considered the centre from which radiates all fulminations in behalf of the monopolists' tariff. Her pet product has been pig iron, so much so that her leading representative in the National House, Hon. W. D. Kelly, long ago received the soubriquet of "Pig Iron Kelly," in recognition of his efforts in keeping a high tariff on pig iron. Pennsylvania banded together ore miners and iron workers as with one voice. So long as high duties upon pig iron gave her a monopoly on the steel and iron trade of the United States, she was content to leave a virtually prohibitory tariff on ores. There was for a long time a close and harmonious alliance between Pennsylvania and the ore districts of Michigan on these questions. But it ended. Alabama can make and sell to a profit at *one-half the money* that Pennsylvania has been getting. Alabama is now on top in this question and Pennsylvania underneath. That was a surprise to Pennsylvania. Then it became Michigan's turn to be surprised. The Michigan ore

people suddenly discover that their co-partners in tariff monopoly are yearning for the cheap rich ores of Cuba and Spain, and are actually plotting for a reduction of the tariff on ores. Then the Michigan people in convention passed resolutions, demanding continued protection and no competition with the pauper labor of Spain and Cuba.

Thus while the mills grind slowly they are grinding exceedingly fine. There is a wheel within a wheel, but all the machinery is moving in the direction of greater

FREEDOM TO TRADE AND COMMERCE.

Pennsylvania tariff monopolists have always had the greater part of the cream.

In good times her manufacturers flourished, but somehow or other, the public has not failed to notice that employes in that state, seem always to be just on the verge of starvation. Recall the strikes, the lock-outs, the Molly Maguires, riots and what not, with the death and suffering that followed in their wake. And yet these things happened while she enjoyed the benefits (?) of a tariff which, we are told, "stands at the elbow of every laboring man in this country to help him to better wages, etc." Let us see how the monopolists' tariff helped the laborer. The tariff, of course, confines the manufacturer to the limited demand of the home market. When that limited demand was supplied the Pennsylvania manufacturers shut down and discharged their men and waited for the next turn in trade. And not infrequently they had to wait a long time for that turn. Meanwhile their employes were left in a sore strait.

Did these manufacturers help their men when better times came? Not at all. When the next improvement in demand came, they imported their labor from Europe, and did it time and again, because it was cheapest, meanwhile expressing the greatest solicitude about the retention of the tariff on account of the American workmen in their employ!

Thus does "A protective tariff stand at the elbow of every laboring man in this country." How apt then this quotation from Gen. Warren, also used by the lecturer in question: "The tools of poorer, in every age, have racked their inventions to justify the few in sporting with the happiness of many."

Think of it. What a mere fraction of the population of this country are engaged in the so-called protected manufactures. And yet the whole country is drawn upon to contribute to the support of these few. What advantage to the farmer, stock raiser or mechanic? Perhaps it makes his coal cost a dollar or two per ton more, causes him to pay two to three cents per pound higher for his sugar, a good round price for clothing and implements, in fact more for everything he consumes or uses in his family. Glorious old tariff! No wonder when hunting for arguments for the *religious* aspects of cause, he espoused the lecturer should feel forced to admit that even "The Devil can cite Scripture for his purpose," a circumstance, which certainly should go far in palliating his apparent trifling with sacred things.

If, then, a business or interest cannot be engaged in without paying the projectors fifty times, as a government subsidy, let them go under. One house in legitimate business, employing one hundred men and

depending upon itself and its own resources for success, is worth hundreds of establishments that have to depend upon a government subsidy, such as our tariff affords them. If the people are to be taxed, why not let the government have the benefit of such taxation, particularly as there is no revenue from heavily "protected" articles as already explained.

The remedy for this state of things is in the voters. Let them remember that when they vote for members of Congress, and for members of Legislatures, when a United States Senator is to be elected, to vote for men and measures, which will give them what they want. It thus comes to every man "to care for his own household." To carry the lecturer's argument to its legitimate conclusion, the householders of this land should combine against a common robber.

Great Britain is so much of a free-trade country to-day that her laborers are better housed, better fed, and better clothed, than they ever were under protection, and the laborer there can buy his coal, bread and provisions, and everything he consumes or uses, cheaper than the laborer in the principal Eastern cities of the United States can supply himself with the same necessities. Great Britain has grown and prospered under free-trade as never before. Her commerce is in every sea. And well she might prosper for the United States by adhering to its tariff policy surrendered everything, foreign trade, foreign commerce and foreign exports of manufacture to Great Britain.

The question to be decided by the people of these United States in the interest of labor, trade and commerce is: "Shall we manufacture exclusively and solely for the home market, or letting down the bars which now exclude us from foreign trade, shall we manufacture for the world?"

To argue that the citizen of the United States, commercial treaties and all other things being equal, as we must insist they shall be, cannot compete successfully with the British manufacturer, is but stuff and nonsense. The American citizen is always equal to the opportunity. Give him the opportunity and he will easily demonstrate his ability to be equal to any emergency. As we are rulers all, our destiny is in our own hands. Let us, therefore, resume the rule, which we have so long tacitly surrendered, to our own great detriment, to a mere handful of monopolists. Let us hasten that time when can be proclaimed the change: "The King is dead—Long live the King!"

THE race for supremacy in the trade of Australia is growing more and more exciting between England and Germany. The *Birmingham Gazette* of recent date says: "The tendency of Birmingham trade, with that of English manufacturing trade generally, is more and more gravitating towards Asia and Australia, though we are likely to meet with serious competition on the part of the Germans in those regions since the acquisition by those enterprising foreigners of New Guinea and islands of the Indian Archipelago." England not only will find her German neighbors formidable competitors, but she is finding, and will continue to find, very lively competition from American manufacturers, who, in very many important lines, are able to hold their own against the world.

THE MILL MACHINERY MANUFACTURED BY THE CASE MANUFACTURING COMPANY, COLUMBUS, OHIO.

In the year 1878 Mr. J. M. Case, of the Case Manufacturing Co., began in a small way to manufacture the Case Double Middlings Purifier. Shortly afterward Maj. Otway Watson, since deceased, entered into partnership with Mr. Case in the manufacture of this machine. Mr. Watson gave to the company the benefit of his well-trained business experience, as well as substantial financial standing. The machine proved to be a good one, and rapidly gained favor with the millers until the business became quite prosperous, and the company were compelled to enlarge their facilities for manufacturing.

Soon, however, a cloud gathered over them. The Consolidated Middlings Purifier Co., the owner of numerous patents, entered suit against them, which at once affected their trade to such an extent that they found it necessary to begin the manufacture of other mill machinery. This lawsuit was continued through the courts for a number of years, but has now been adjusted and settled, the Case Co. taking license under the Consolidated Co., so that their purifier is now free from any cloud and the purchasers not liable for damages in the future.

□ All past sales have also been adjusted,

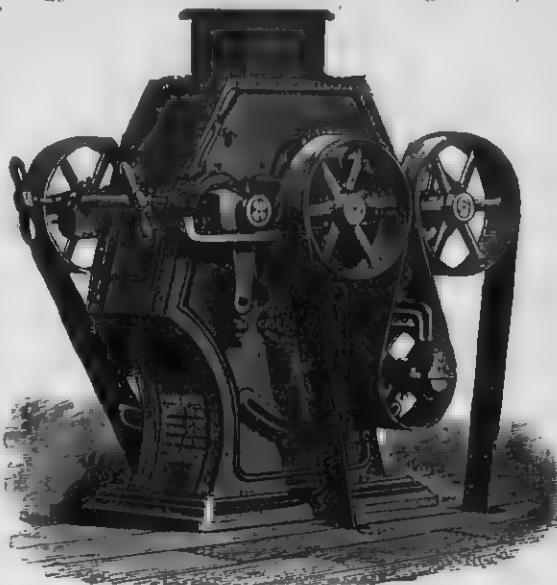
having the foresight to realize that there would be a great demand for machines designed for small mills. They were built and put in operation. At first, of necessity, the machines were crude, but gradually they were brought up to an advanced state of mechanical construction, until to-day the Case machinery occupies a high position in all parts of this country and Europe.

The building of small mills soon made a demand for large machinery for large mills,

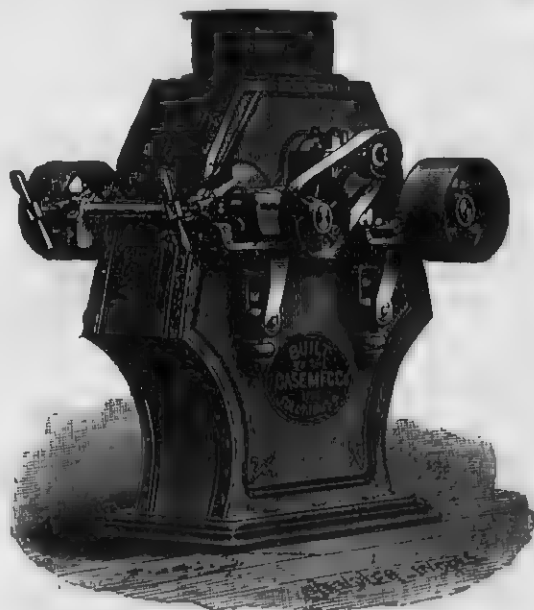
cylinders breaking against it. The central cylinder is provided with both sharp and dull corrugations, and also smooth surfaces, so that the machine is adapted to all kinds of wheat. This company also builds all sizes of single-belted rolls.

Mr. Case also claims the credit of having first constructed and put upon the market a combined break machine and scalper, making three separations. This was done at a time when the stone miller believed that all he needed to compete with the all-roll mills was to remove the grain and seam dirt; but Mr. Case says he soon discovered that while such treatment of the wheat would act as a wheat cleaner, and thus be of benefit, yet not of a sufficient amount to justify expectations. He now recommends the machines to be used in no cases ahead of burrs, but only where they are to be followed by successive breaks.

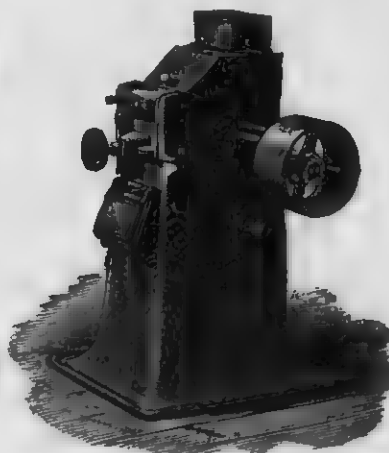
As the Case Company's business increased they found it necessary to build a centrifugal reel. One was first built and put upon the market having a stationary outside bolting cylinder. This machine, while it performed the work of bolting well, developed, the company say, a serious defect, which was that the cloth being stationary, the action of the material was concentrated at one point on the cloth, and it would rapidly wear out. The company quickly abandoned this ma-



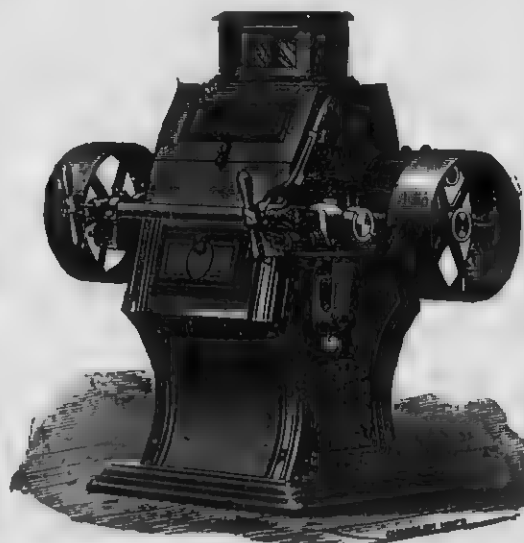
CASE 6x12 4-ROLL MILL.



CASE 3-ROLL FIRST AND SECOND BREAK MACHINE.



CASE "LITTLE GIANT" BREAK MACHINE.



CASE 9x18 2-ROLL MILL.

and license granted to cover them and all machines which may hereafter be made.

The next machine developed was that known as the "Little Giant," calculated to split the grain of wheat through the seam. This machine met with great favor, and hundreds of them were sold in this country and Europe, where they are a favorite. The machine is a remarkably simple one and very cheap.

Soon this company developed a six-inch roll, intended at first to handle the cut-offs from purifiers. This company lay claim to being at least one year in advance of all others in placing upon the market a small roll adapted to small mills. The success of the "Little Giant" and of the little six-inch roll suggested to Mr. Case the idea of making a small line of machines for small mills, he

and Mr. Case developed what has since been known as the Case "Bismarck Roll," which has met with great favor. It is remarkably simple in construction, and embodies as a special feature the Case Automatic Vibratory Feed.

In the course of time the Case Manufacturing Co. developed other machines, among which may be mentioned the Case Three-Roll Mill for first and second breaks. Mr. Case claims that in the first and second breaks no differential motion is required or desirable, the only object of differential motion being to cause a feed of the stock and present all parts to an equal wear. In the first and second breaks the corrugation being coarse, the machine will take in the stock without differential. The central cylinder in this machine is stationary, the two outside

chine and began the construction of the standard outside revolving cylinder, which has proved very successful.

In addition to the machine, the Case Manufacturing Co. are building a full line of bolting chests, scalping reels, and every machine that goes into a mill except wheat cleaners and packers. They have provided themselves with corrugating and roll grinding machines and every modern tool or machine necessary to facilitate their business, and may therefore be set down as one of the practical, energetic mill-building concerns that have come to stay. The growth of their trade has been phenomenal, and may be traced to two distinct causes. First, they had an Otway Watson, now deceased, and in J. F. Oglevee, present business manager, the highest order of business talent, and in J. M. Case, a practical inventor and mechanic. These are the two fundamental elements of success in any mechanical undertaking.

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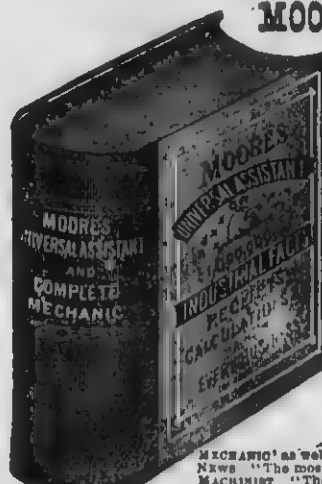
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WELSHMEN.—WELSH IRON WORKERS.—WELSH MILLERS.

We clip the following from the Milwaukee correspondence of the *Waukesha Freeman* for August 20:

"Your correspondent had an interview on Friday last with the man who drew the first heat of iron puddled in Wisconsin. He is a Welshman named Williams. The first iron ore ever mined in Wisconsin was mined by a Welshman. So your readers will see that Welshmen are ahead in many things. As the *Freeman* has among its readers many Welshmen, I will call their attention to some historical facts that may be of interest to them and their descendants.

Of fifty-five signers of the Declaration of Independence, seventeen were Welsh or of immediate Welsh descent. In the Revolutionary War there were, on the American side, fourteen generals, one colonel, six captains, and one lieutenant. No distinct nationality makes a better showing in the American struggle for liberty than the Cymry. The author of the Declaration of Independence, Thomas Jefferson was the son of a Welshman, born at the base of Snowden, the celebrated Welsh mountain. Roger Williams, so persecuted by the Puritans, who fled to Rhode Island and there proclaimed religious liberty, was a Welshman. As lovers of freedom, whether religious, political or civil, the Welsh are among the foremost in the world; nor does history, anywhere, record their conquest or subjugation, as can be said of other peoples. Their union with England was the result of a treaty based upon one of the most remarkable propositions anywhere recorded: "Give us a Prince born on our own soil to rule over us, and we will be contented and obedient to England." As is well known, England's Queen visited Carnarvon Castle, in Wales, where her son was born; and "Ich Dien" inscribed on the royal standard, or, in English, "Here's your Prince," remains to this day, as it is seen on the band that clasps the three flowing feathers. On every battle-field, wherever England has won glory and renown, the soil has drank in Welsh blood, always freely shed, to uphold the country to which they had attached themselves. So much for the Welsh. Nineteen-twentieths of them are Republicans, and, as has been said, there are probably not ten free-traders among all the Welsh in Wisconsin. They are protectionists in principle. It is very seldom that a Welshman is given an office in Milwaukee, and rarely are they found seeking them.

A great many Welshmen are millers where their industrial and faithful conduct has always ensured them the highest of wages. Several of the head millers of Milwaukee have been Welshmen.

OUR CATTLE INTERESTS.

Hon. Norman J. Coleman, U. S. Commissioner of Agriculture, in an address before the National Cattle Growers' Association of America, held at Chicago, November 17, said: "When the first accurate statistics of the cattle in this country were collected in 1850, it was found we had in round numbers about 17,778,000; in 1860, 25,820,000; in 1870, this number had been reduced to 23,820,000; in 1880 there were 35,925,000, while in 1885 there are not far from 45,000,000. This last num-

ber is so great that it is difficult for the human mind to grasp its significance or to appreciate the vast accumulation of cattle which it represents, which have been gathered together and reared by the industry and enterprise of our people. If a solid column should be formed twelve animals deep, one end resting at New York City, its centre encircling San Francisco, and its other arm reaching back to Boston, such a column would contain about the number which now forms the basis, the capital stock, so to speak, of the cattle industry of the United States. The value of these animals is not less than \$1,200,000,000.

There is an impression throughout the country that the cattle business has been developed far beyond what is necessary or even prudent. But this is not the case. Notwithstanding the wonderful increase of the past fifteen years, an increase which it is safe to say will never be repeated in the same time in this country for lack of territory, we have just about the same number of cattle per 1,000 inhabitants that we had in 1850, and less than we had in 1860. In other words, although our cattle have increased in an almost fabulous manner, our population has increased with equal rapidity.

In the United States, from being long accustomed to an abundant supply of meat, and owing to the prosperous condition of our people, we consume more meat per head than any other country. Another reason why the falling off of the meat supply in this country is a fact deserving the most serious attention is the increasing meat consumption of Europe. There is already a great deficiency in the meat supply of Europe. Thus the demand in Great Britain above what she produces is 654,000 tons; France, 235,000 tons; Germany, 100,000 tons; Belgium, 75,000 tons, making a total deficiency of 1,064,000 tons. To supply this, there is a surplus in Russia of 65,000 tons; Austria, 60,000 tons; Denmark, 44,000 tons; Greece and Roumania, 28,000 tons; Holland, 25,000 tons; Italy, 25,000 tons; Spain and Portugal, 20,000 tons—a total surplus in these nations of 287,000 tons. Taking this surplus from the deficiency of 797,000 tons of meat which must be supplied by America.

A paper was also read by Dr. D. E. Salmon, chief of the Bureau of Animal Industry, of Washington, in which he furnished the following statistics relative to the cattle industry:

Cattle industry, 45,000,000 head.	\$1,200,000,000
Annual production, 7,000,000 head.	350,000,000
Become a part of inter-state commerce, 5,000,000 head.	250,000,000
Veals, 3,000,000.	15,000,000
Export trade, the greater part of which is restrictions, 182,000 head.	13,000,000
Total exports of cattle and cattle products.	50,867,000
The swine industry, annual product, 29,000,000 head.	340,000,000
Value of the product which goes into inter-state commerce.	243,000,000
Annual product exported.	92,000,000

In human life the race of civilized man has moved up. Man has gone on and multiplied until he fills the earth, and education and the spread of knowledge have rendered it harder for any one man to rise clear out from among his fellows and tower above them so that he will appear great or heroic.

We have in these days the majesty of the people—something that lifts its body above the great men of the past. In the old days that were so fruitful, as we say, of great men, it was comparatively easy to be great. —*Chicago News.*

We will send the U. S. Miller for one year and Ogilvie's Handy Book for \$1.00.

MILLING PATENTS.

The following list of patents relating to milling interests, granted by the U. S. Patent Office during the past month, is specially reported by Stout & Underwood, Solicitors of Patents, 86 Wisconsin st., Milwaukee, Wis.

Issue of Dec. 1, 1885. No. 331,401—Oatmeal and grain reduction mill, W. Hutchinson, Ottawa, Canada; No. 331,468—Grain separator, H. Bailey, St. Thomas, Can.; No. 331,683—Grinding mill, H. H. Colos, Philadelphia, Pa.

Issue of Dec. 8, 1885. No. 331,961—Conveyer, W. Griesmer, Chicago, Ill.; No. 331,962—Automatic grain-weighter and register, I. N. Griffith and C. F. Griffith, Macomb, Ill.; No. 332,006—Machine for the reduction of grain, H. F. Saint Requier, Paris, France; No. 332,000—Bolting reel, C. F. King, Covington, La.; No. 332,116—Stop motion for grain-weighting apparatus, C. Seesale, New York, N. Y.; 332,143—Grinding mill, B. J. Du Bosc, Lisbon, Ga.

Issue of Dec. 15, 1885. No. 332,234—Vertical disk grinding mill, J. T. Case, Bristol, Ct.; No. 332,300—Bolting reel J. W. Hill, Sandborn, Ind.; No. 332,615—Midlings, purifier, W. Klostermann, Young America, Minn.

Issue of Dec. 22, 1885. No. 333,030—Dust collector, C. H. Morgan, Buffalo, N. Y.; No. 333,021—Dust collector, C. H. Morgan, Buffalo, N. Y.; No. 332,780—Grain separator, R. M. Cochran, Jacinto, Cal.

BOOK NOTICES.

THE LIBRARY MAGAZINE.—Alden's Library Magazine is quite the peer of the great \$4 monthlies, in the amount and high quality of the literature which it presents, though its cost is only the nominal sum of \$1.50 a year. Among the contents of the current number are articles by such noted authors as Canon Farrar, Max Muller, the Bishop of Carlisle, Cardinal Newman, Philip Schaff, and others. This magazine ought to have a circulation of a hundred thousand. You can get a specimen from the publisher, John B. Alden, New York, for the price of 15 cents.

"ELIA" AND CHARLES LAMB.—A unique genius, that of Charles Lamb. Just like nothing that ever appeared before them, or has since appeared, are the quaint and delightful "Essays of Elia," a new edition of which has recently been issued by Alden, "The Literary Revolution" publisher of New York. Turn to any of your encyclopedias and they will tell you that Charles Lamb was one of the most charming essayists that the English language has ever known, and also that his Essays of "Elia" are the choicest of his works. They are not merely the first work of their class, but, like "Pilgrim's Progress" and "Robinson Crusoe," they constitute a class by themselves. The volume is certainly one of the most delightful of the books described in Mr. Alden's 148-page illustrated catalogue, which he offers to send for 4 cents, or the 16-page catalogue which is sent free. Address, John B. Alden, Publisher, New York City.

THE Chicago Evening Journal says with much truth: "Neither cotton nor corn nor wheat is king—it is the dairyman. The statistics laid before the National Butter, Cheese and Egg Association at its late meeting in Chicago, surprised some people. They show that the annual value of dairy products in this country is \$100,000,000 greater than that of the entire wheat crop, and \$120,000,000 greater than that of the cotton crop; while the amount of capital invested in cows is said to be greater by \$40,000,000 than that invested in bank stocks. Make way for the dairyman!"

ITEMS OF INTEREST.

THE capacity of the grain carrying vessels now in winter quarters at Chicago is equivalent to 4,600,000 bushels, which, with the available room in the elevators, will make storage for over 80,000,000 bushels of grain.

LEATHER belt cement is made by soaking six ounces best glue in one pint of ale, then boil. Add one and a half ounces of boiled linseed oil and stir well. Another, is to take dissolved glue as pattern-makers use it, and add tannic acid till creamy and ropy. Make the leather surfaces to be united rough, apply the cement hot, let it cool and dry under pressure, and it will not need riveting.

A GREAT trouble in drying lumber quick has been the tendency to form a hard shell on the outer surface before the interior saps have been vaporized, this hard shell preventing the escape of the sap. To overcome this difficulty, a new lumber dryer heats the wood to a temperature of 225 to 250 degrees, where it is allowed to remain two or three hours, when steam is shut off and the temperature of the wood is reduced to about 100 degrees by cold water or cold air. It is then re-heated and cooled as before, the operation repeated until the lumber is thoroughly seasoned.

GROWTH OF DAKOTA.—Gov. Pierce, of Dakota, in a report to the President, gives some very interesting facts regarding the growth of that territory, which presses on the advisability of making it a state. The following table gives the number of inhabitants and farms in the whole territory and their values, and the principal productions for 1880 and 1885:

	1880	1885
Number of inhabitants.....	135,177	415,610
Number of farms.....	17,435	81,738
Value of farms.....	\$22,491,084	\$155,080,518
Value of live stock.....	\$6,463,274	\$39,334,352
Value of farm products.....	5,648,814	\$36,807,881
Bushels barley.....	227,424	2,166,864
Bushels corn.....	2,000,864	7,800,595
Bushels oats.....	2,217,182	22,870,008
Bushels wheat.....	2,830,239	38,166,413
*Bushels of flax.....		2,102,068
Tons hay.....	308,039	1,502,333
Bushels potatoes.....	664,086	3,973,505

*None raised in 1880.

Neither has the range and ranch cattle interest been backward in its advance and growth. The total number of live stock amounted to about 813,368 animals, of which 11,084 are horses, 238,167 cattle, and 64,117 sheep, all valued at about \$6,165,289.

FROSTING BRASS WORK.—Boil in caustic potash, rinse in clean water, and dip in nitric acid till all oxide is removed; then wash quickly, dry in boxwood sawdust, and laquer while warm. This will give brass an ornamental finish.

THE second break, in an elaborate system, is but little better than a scouring process, but far too much flour is made to allow of its going into the feed-bin. There is almost as much crease dirt in the second-break product as in the first, for the reason that the small grains of wheat pass through the first-break rolls unscathed, but are caught in the second. However, crease dirt or not, the product of the second break is scalped and the flour and middlings sent off to be further treated, the flour finding its way into the "fancy" or "baker's" bin, and the middlings traveling the narrow but crooked way of all middlings,

resting finally as flour, part in the "patent" and part in the "fancy" bin.—*Abernathy.*

ONE of the remarkable things which we see in the milling papers and the reports of milling conventions is the talk about systems—systems of running mills, systems of management. We see and hear less about machines and general details of that kind. The strife between smooth-cut and round-cut rolls has settled down much sooner than we could have expected. People have learned that they can do good milling with either kind. When people begin to talk about processes and systems in milling and mill management, the matter of detail is susceptible to more ready solution than would be the case when there is more or less carelessness with reference to the system as a whole. If a miller looks at a single machine, and considers it by itself, he cannot estimate the value of that machine. It must be taken in connection with the whole milling system.—*Millers' Journal.*

ELECTRICITY is frequently caused by the friction of belts on pulleys. This has been the cause of fires and should be guarded against by connecting all parts on which the electricity accumulates, with the ground, by means of wires attached to the object and to a gas, or preferably, a water-pipe. This is one of the most prolific sources of fires in the heavy coating rooms of oil-cloth factories, as the electric sparks readily ignite the benzine vapours present. In one of the largest Philadelphia works of this kind, the iron receiving racks were so charged with electricity that long sparks could be drawn from them, but since they have been properly "wired," not a trace of electricity is left in them.

THE COMMERCE OF BUFFALO.—The season's receipt of flour by lake at Buffalo, N. Y., amounted to 2,740,570 barrels, a small increase over 1884; the imports of grain (not including flaxseed) aggregate 49,174,240 bushels, as compared with 55,586,530 bushels in 1884; a falling off of 6,412,290 bushels. The shipments of grain by railroads from the elevators connecting with the said railroads centering here were 10,530,545 bushels—a decrease from last year of 857,165 bushels. The exports by lake to western ports for the season show as follows: Coal, 1,495,510 tons; cement and plaster, 267,240 bushels; salt, 103,490 barrels and 5,057 tons—a very gratifying increase over 1884 in all cases. Elevating and storage rates steady all the season at last year's figures. The shipments by canal for the season to date were 2,692 barrels of flour and 31,466,768 bushels of grain (not including flaxseed), against 4,849 barrels of flour and 37,846,067 bushels of grain in 1884—a decrease of 2,157 and 6,379,299 respectively.—*Bradstreet's.*

HORSE-POWER OF BOILERS.—The following data for rating boilers are given in the *Steam Users' Journal*:

With good natural draught, flue boilers should have about 10 square feet of heating surface for the evaporation of 1 cubic foot of water per hour; and this evaporation per hour may be taken to represent 1 horse-power.

The coal required to effect this evaporation will generally be about 8 lbs., and the grate surface provided for the combustion of this amount of coal per hour, should be about

half a square foot. Therefore, for each horse-power that a flue boiler is expected to develop economically, the following will be required:

- 10 square feet of heating surface.
- 1 square foot of grate surface.
- 1 cubic foot of water per hour.
- 8 pounds of good coal per hour.

Millers should make themselves "solid" with the milling papers by sending in their subscriptions now.

WAGES IN THE GOOD OLD TIMES.

The following items form a table showing the wages of labor fixed by the magistrates and justices of the peace for the county of Chester at a meeting held in Chester, Eng., in April, 1597:

	By the year with meat and drink.	By the year without meat and drink.	By the day with meat and drink.
A smith.....	£1 11 8	25 00	20 02
A wheelwright.....	3 00	5 00	0 02½
A ploughwright.....	1 10 0	5 00	0 02
A master carpenter.....	2 13 4	5 13 4	0 04
A servant carpenter.....	1 00	3 10 0	0 01
A joiner.....	1 10 0	4 00	0 02
A rough mason.....	1 62	5 00	0 02
A plasterer.....	1 00	5 00	0 02
A sawyer.....	1 80	4 10 0	0 02
A limemaker.....	1 80	4 68	0 02
A bricklayer.....	1 00	4 00	0 02½
A brickman.....	1 60	4 10 0	0 02½
A tiler.....	1 50	3 18 4	0 02
A slater.....	1 60	4 00	0 02
A millwright.....	1 34	5 10 0	0 03
A tilemaker.....	1 10 0	4 00	0 02
A turner.....	0 16 0	3 00	0 02
A shingler.....	1 10 0	4 00	0 02

THINGS WORTH KNOWING.

PRESERVING EGGS.—Now is the time the egg preserver may get in his work. In many towns, both East and West, shrewd men are packing eggs by the thousands at a cost of less than one cent each. Next winter they will sell at two cents each, when fresh eggs are 50 per cent. higher. Eggs packed and treated as follows can be kept three months and seem and look like fresh eggs:

Take a common box, such as is used for packing canned tomatoes; upon a two-inch layer of fresh clean oats place the eggs, large end down, and leave space of at least an inch between the eggs; cover with a layer of oats, and then place another layer of eggs as before, until the box is nearly full; fill it with oats, packing the grain in neatly and screw on the top; place your box in a cool cellar, and turn it upside down every other day. If strictly fresh eggs are used, and the turning is attended to as directed, few persons will know them from fresh eggs, and they will certainly be much superior to limed or pickled eggs.—*National Stockman.*

S. S. STOUT.

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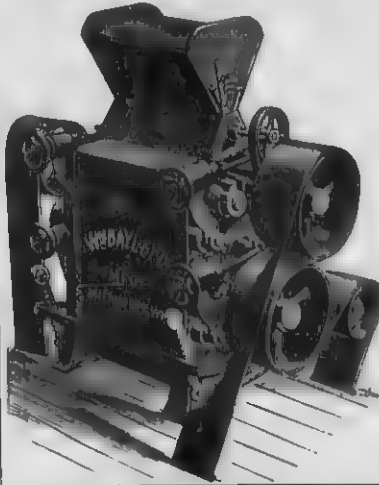
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Empty, Baby's Gone. Never Take the Horseshoe from the Door. Blue Atlantic Mountains.
Leaf of Ivy from my Angel Mother's Grave. Mary of the Wild Moor. Peek-a-Boo. Joe Hardy.
Home Again. We Never Speak as we Pass By. Farmer's Boy. Lullaby. Boys, Keep Away
from the Girls. Baby Mine. Grandmother's Old Arm Chair. High Water Pants. Over the
Garden Wall. A Flower from my Angel Mother's Grave. I Left Ireland and Mother Because
we Were Poor. Give an Honest Irish Lad a Chance. Not Before Pa. Spanish Cavalier.
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Nellie. Bold McIntires. Only a
Pansy Blossom. Nobody Knows
What a Racket Was There. Where
Is My Wandering Boy To-night?
Paddy Duffy's Cart. Widow No-
lan's Goat. Warrior Bold. We Sat
by the River, You and I. You Will
Miss Me When I'm Gone. Old, and
Only in the Way. Oh, Dem Golden

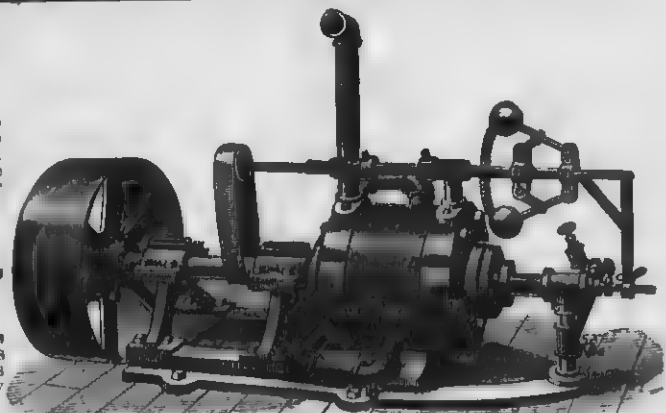
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NONSENSE.

It was a case of breach of promise. The defendant was allowed to say a word in his own behalf. "Yes," he said, "I kissed her almost continually every evening I called at her house."

Lawyer for defendant—"Then you confess it?"

Defendant—"Yes, I do confess it; but I had to do it."

Lawyer—"You had to do it? what do you mean?"

Defendant—"That was the only way I could keep her from singing."

The jury gave a verdict for the defendant without leaving their seats.

"What a farmer needs in this world to be successful," remarked Deacon Hayseed, "is a good wife. Then he's all right. My wife could git up in the mornin' at 4 o'clock, milk fifteen cows, feed six horses, git breakfast for twenty hands, an' be all ready for a day's work afore 8 o'clock. That's what I call a good wife."

"Doesn't she do it now, Deacon?" he was asked.

"O, no," he replied, wiping away a tear, "she's dead."

A Cincinnati girl told her young man she would never marry him until he was worth \$10,000. So he started out with a brave heart to make it.

"How are you getting on, George?" she asked at the expiration of a couple of months.

"Well," said George, hopefully, "I have saved \$22."

The girl dropped her eyelashes and blushing-ly remarked: "I reckon that's nearly enough, George. We are both of age, and a license will cost only 50 cents."

A newly-married lady who recently graduated from Vassar college, is not well posted about household matters. She said to her grocer not long since: "I bought three or four hams here a couple of months ago, and they were very fine. Have you got any more of them?"

Grocer—"Yes, ma'am, there are ten of those hams hanging up there."

"Are you sure they are off the same pig?"

"Yes, ma'am."

"Then I'll take three of them."

"Say, fellers!" said an Elizabeth-street urchin to his playmates, "I'm goin' to have a birthday party the last of Jan'ary or the first of Feb'uary, I dunno which, an' I wants you all to come. Will yer?"

Chorus—"You bet."

Two days later—"The party's goin' to be safternoon, fellers. Come round 'bout four o'clock."

"Why?" in surprise.

"'Cause ma had company yesterday—some fokes to dinner—an' she said she had a lot o' truck left over, and I needn't wait for my birth-day, but cud have the party safternoon. Come over'n we'll make them wittles look sick. It'll be just as good as a birthday anyhow."—*Detroit Post*.

Some one has estimated that the time thrown away in this world in courting the girl you want to marry and who is ready to marry you, would build all the railroads, and bridges, and tunnels, and factories, and public buildings.

"I'm sorry," observed the parishioner, "that I can't pay my pew-rent this quarter."

"I'm very sorry, too, Mr. Jones," returned the clergyman; "I presume you lost your money gambling in stocks."

"No. I can't say that I did."

"Then speculating in oil?"

"No. To tell the truth, I did not. I attended your church-fair the other evening, and got roped into a lattery."

"O!"—*Puck*.

GOOD FOR CROPS.—What a wonderful thing the electric light is."

"Yes, it is wonderful. I expect after a while it will be used to make the crops grow, instead of the sun."

"There are some crops now that thrive by electric light."

"Nonsense."

"No nonsense about it. There are lots of young men who sow most of their wild oats by the electric light."—*Texas Siftings*.

Second husband (to wife)—"Are you as fond of me as you were of your first husband, dear?"

Wife—"Yes, indeed; and if you were to die, John, I would be just as fond of my third. I'm not a woman to marry for anything but love."

BEN LE FEVRE'S BATH.—One day big, handsome Ben Le Fevre was laving his rotund and jovial personality in a marble bathtub in the House bath-rooms at the Capitol.

While he was disporting himself in tepid water, made foaming with scented soap, and was about ready to be rubbed dry by the attendant, a messenger came down and called to him from the outside that there were some gentlemen above anxious to see him on important business for a moment, as they were obliged to depart hurriedly to catch a train.

"Who are they?" called the General, as he blew the water out of his big mustache with a snort like a porpoise.

"They are some gentlemen from Ohio, sir," was the response.

"Are they people from my district?" asked Ben.

"Yes, sir," answered the messenger.

"Then, for heaven's sake, don't send them down here. Shut the doors there, and keep them out. Good Lord! if any of them find I bathe in a marble tub and am rubbed down by a nigger, instead of going down to the creek, and drying myself with my shirt, it will lose me a thousand votes."

The unterrified and unwashed constituents didn't get in.—*Washington Letter*.

A CUTTING RETORT.—In a certain small town the members of the various religious sects were very tolerant toward each other. The clergymen, in particular, were very friendly. On the occasion of the Jewish rabbi's silver wedding, he invited the Protestant clergyman, and also the Catholic priest. While the reverend clergymen were enjoying the good cheer set before them, the Catholic priest said to the rabbi:

"I know that you are a very liberal-minded gentleman, but could you bring yourself to eat pork?"

"Certainly I could relish some ham, at least on one occasion."

"And that would be?"

"At the marriage dinner of your reverence."

THE DOWNFALL OF TRESPASS JOHNSON. "I can't see dat Prof. Trespass Johnson an

in de hall to-night," said Brother Gardner as he looked up and down. "De fack am, I didn't 'zactly 'spect he would be. Sartin events hev occurred to render his absence a necessity. De secretary will turn to his name on de roll an' scratch it off, and write across it in red ink de word 'expelled.'"

When the secretary had carried out the request the president continued.

"Up to a y'ar ago Prof. Johnson was an active, respected member of dis club. He was not only a worker in our cause, but he was industrious as a man. If he couldn't get work at \$1.50 a day he got it fur \$1. If he couldn't hev roast duck for Sunday he put up wid a beef-bone soup. His family had plenty to eat an' to w'ar, an' when rent day cum around he had de cash ready for his landlord."

"Just about twelve months back some white man told de professor dat he had just as good a right to a pianer, gold watch, an' span of horses as a rich man. He was told dat de aristocracy war coinin' money out of his labor. He was made to believe dat de pusson who wouldn't pay \$2 to hev a kitchen cellin' whitewashed was an oppressor. It was pounded into him dat if he sot on de fence all summer an' talked again de blue blood of dis kentry somebody would furnish him roast turkey all winter."

"Many of you saw how he was affected. He began to hate honest work. His mouf began to grow bigger. While his cloze grewed seedy his importance increased daily. When his wood-pile grew low he cussed Vanderbilt. When his flour-bar'l was empty he reviled Jay Gould. When his children becum ragged he ripped at capital. When his wife becum barfut he swore at the aristocracy. When his landlord bounced him for non-payment of rent he howled an' raved about oppressors an' tyrants."

"De climax cum las' nite. I heard dat he had bin boastin' dat de rich must divide wid him, and I concluded to watch my hen-coop. About 'leben o'clock de professor showed up. I had twenty-two choice hens. He had none. He was gwine to divide wid me and take 'leben. My fr'en's, I can't 'zactly discribe what happened arter I got my paws on him, but I know he went away empty-handed, limpin', sore, an' in de han's of an officer. He am no longer a member of dis club. If dar am any odder man wid socialistic ideas now would be a good time fur him to make a grab fur his hat an' back down sta'rs."

A deep silence followed. Not a man moved.—*Detroit Free Press*.

SCOTCH SHREWDNESS SHOWN IN TWO ANECDOTES.—THE HIGHLANDMAN OUTWITTED.—Some years ago, before the sale of game was legalized, and a present of it was thought worth the expense of a carriage, an Englishman rented a moor within twenty miles of Inverness. Wishing to send a ten-brace box of grouse to his friends in the South, he directed a servant to call upon Donald Fraser (who owned a horse and cart, and made a livelihood by driving peats into the town), and ask him what he would charge for taking the box to Inverness.

Donald would not take it under eight shillings. The demand was thought so unreasonable that the gentleman complained to a Scotchman who was shooting with him.

The Scotchman replied that he (the Englishman) did not understand how to bargain

with the natives, but to leave it to him and he would see what could be done. Accordingly he called upon Donald, when the following conversation ensued:

"Guld mornin', Donald. What's the price o' peats the noo?"

"Juist aughteen pence the load, sir."

"Very weel, ye can tak' a load into my hoose in Inverness the first thing the morn's mornin'."

"I'll dae that, an' thank ye, sir."

The Scotchman then walked on about twenty yards, when he suddenly turned around and said:

"By the by, I ha'e a sma' box tae send; ye can juist pit it on the tap o' the peats."

"I'll da'e that, sir; it'll no mak' muckle difference."

In this way the Scotchman got a good load of peats for 1s. 6d., and the Englishman got his box of game sent for nothing.—*Scottish-American Journal*.

THE NEXT QUESTION.—In Scotland they have narrow, open ditches, which they call sheep-drains. A man was riding a donkey one day across a sheep-pasture, but when the animal came to the sheep-drain he would not go over it. So the man rode him back to a short distance, turned him around and applied the whip, thinking, of course, that the donkey, when going at the top of his speed, would jump the drain before he knew it. But not so. When the donkey got to the drain he stopped all of a sudden, and the man went over Mr. Neddy's head. No sooner had he touched the ground than he got up, and, looking his beast straight in the face, said, "Verra weel pitched; but then hoo are ye going to get ower yersel?"

"A ROMAN Catholic priest, after a tour in Ireland, reports that all the boys and girls are thinking about getting to America. In every poor cabin you may see a picture of a young woman with feathers in her bonnet, or a young man in fashionable clothing, that's Bridget or Patrick that went to America three years ago."

THE Southern darkey says he has learned how to get answers to prayer: "If I pray de Lord to send me a turkey, I doan get him; but, if I ask Him to send dis nigger after 'em, I always get 'em 'fore daylight."

OVER six thousand young alligators are sold in Florida every year, and the amount of ivory, number of skins, and quantity of oil obtained from them, entitles them to a high place among the products of the state.

DURING 1884, 2,284 vessels passed through the Suez Canal, and the revenue derived from tolls was \$9,400,000.

THE lowest human beings are the earth men of Africa. They live under ground on insects, and have only a sign language. Two of them are in London on exhibition.

LAST year thirty-six Southern furnaces shipped to Northern markets 103,366 tons of pig iron. Thus far this year twenty-three furnaces have shipped 99,058 tons.

THE Nogales (Cal.) *Nugget* predicts that some old claims worked by the Spaniards more than 800 years ago will soon become the most important mines operated in recent years.

THE number of looms and spindles in South Carolina has more than doubled in four

years, and the increase in her lumber and turpentine mills and development of her mines and quarries is remarkable.

THE loss of life in mines during the past year has been simply enormous. We recall the remark of an old miner once made to us in our boyhood: "I never go down the shaft without wondering whether I am not going into my grave."

BREAD WINNERS ABROAD.

We have received a copy of the above-named work published in pamphlet form in the People's Library, J. S. Ogilvie & Co., 31 Rose street, New York, price 20 cents. The pamphlet, which is in large type and on good paper, embraces the entire series of letters written by Hon. Robert P. Porter, of the tariff commission, and originally published in the New York Tribune. The second series were published in the Philadelphia Press, Chicago Inter-Ocean and San Francisco Chronicle. There are in all one hundred and four letters in the two series, comprising 110 pages.

We most heartily commend this pamphlet to our readers. A better publication for the imparting of correct information about the "labor wages and condition of the working-classes of Great Britain," could not be written. John Bright said: "When you are called upon to speak, try and say something that will be useful and help to spread useful information." Mr. Porter has done this; no more useful information, to the laborer, the artizan, and the mechanic, of the United States could be spread before them than can be found in this pamphlet.

We will send the Deutsch-Amerikanische Mueller and the U. S. Miller for one year for \$1.50.

THE DAIRY COMPARED WITH OTHER INDUSTRIES.

The following figures are copied from a paper read last spring before the Mississippi Dairy and Creamery Association by its Secretary, J. W. Sheppard:

The value of the dairy product of the State of Iowa alone for the year 1884 amounted to \$50,000,000, while the total value of the butter, cheese and milk product of the United States for 1884 was \$500,000,000. These figures are best appreciated by noting the value of some of the other products.

The entire value of the oat crop in the United States for 1884 was \$150,000,000.

The total value of the pig iron product in this country last year, if one reckons the average price per ton at \$18, is \$81,000,000. By the time this pig iron is converted into steel and bar iron, it perhaps reaches the value of \$243,000,000, but does not exceed this sum.

The cotton crop of 1884, at an average valuation of \$50 per bale, makes the entire product to be worth \$380,000,000.

The entire wheat crop of 1884, if valued at 80 cents per average bushel, amounts to \$400,000,000.

These comparisons show that the dairy products for 1884 was \$350,000,000 more than the oat crop; \$419,000,000 more than the pig iron product; \$257,000,000 more than the iron and steel product; \$120,000,000 more than the cotton crop; \$100,000,000 more than the entire wheat crop of the country.

Now, these figures only pertain to the product of one year. What is invested in dairy lands, buildings, cows, and machinery to produce this value is difficult to ascertain, as a whole, but we do know that the amount of money invested in milch cows alone, in 1883, exceeds the enormous sum of \$700,000,000. This sum is better appreciated when it is remembered that the entire capital stock of the National banks of the United States, for the year ending Nov. 1, 1884, was \$524,266,345; while the entire capital stock of the State banks and trust companies in the United States was \$132,958,954. By adding these two sums together we get the sum total of the capital stock of the entire banking institutions in the United States which is \$42,744,701 less than is invested in dairy cattle alone.

We will send Harper's Magazine and the U. S. Miller for one year for \$4.20, or the Century Magazine and U. S. Miller for \$4.00.

THE CHEAPNESS OF CATTLE.—In reviewing the cattle market, the *Chicago Times* makes this observation: "It has been several years since cattle, particularly fat beeves, have been sold as cheap as they are now. One reason for their cheapness is the increased cattle raising on eastern and western farms, but the extraordinary plentifulness and cheapness of mutton has something to do with it. Then it is also clearly demonstrated that high prices for six years or more have stimulated cattle raising on the western plains to a point never before equaled in any country on the globe. The enormous western plains and the mountain valleys, hitherto unoccupied, have been used by cattle raisers, who have succeeded with very little trouble in making from 15 to 30 per cent. annually on their investments. Recent receipts at the Chicago stock yards have been greatly excessive, and prices have declined so rapidly that in numerous instances western shippers have lost a good deal of money."

SPECIAL BUSINESS NOTICES

BOLTING CLOTH!

Don't order your Cloth until you have conferred with us; it will pay you both in point of quality and price. We are prepared with special facilities for this work. Write us before you order. Address, CASE MANUFACTURING CO. Office and Factory: Fifth St., North of Waughten, Columbus, Ohio.

SITUATION WANTED.

Short advertisements will be inserted under this head for One Dollar each insertion.

WANTED SITUATION.—By a young man, 21 years of age, a situation in a 100 or 200 barrel Roller Mill, where he could acquire a thorough knowledge of Roller Milling. Is at present working in a large mill. Address, Willing, care of UNITED STATES MILLER.

WANTED.—A practical Oatmeal Miller, one who understands his business and is willing to attend to it. Can receive additional information by calling on, or addressing CHARLES D. DANA, 10 State St., Chicago, Ills.

AND CALL HER MINE.

Oh, were I a flake of the polar snow
 Afar in the gleam of a polar sky,
 I'd float to the breast of my warm, sweet love,
 And nestle and melt and die.

Or were I a breath of the southern breeze
 That's blown from the lips of the southern sun,
 I'd circle the soft, fair tints of her flesh
 Till the flesh and the breath were one.

Or were I a crust of the virgin gold
 That vision of men had never yet seen,
 I'd rise from the bed of the damp, dark earth
 To crown her forever queen.

But being a man, with a man's true heart,
 That is strong, like the ocean, and keen, like wine,
 I'd stretch out my arms to my sweet, fair love,
 And clasp her and call her mine.

W. J. HENDERSON.

We will send you a copy of "Leffel's Construction of Mill-dams, and Bookwalter's Millwright and Mechanic," and "The U. S. Miller" for one year for \$1.30. Don't miss it.

FOREIGN COMPETITION AND THE FLOUR TRADE.

On the 24th of last month a correspondent, writing to the Prime Minister, wished to know if he were in favor of an import duty on foreign flour. Lord Salisbury had already denied in the plainest of terms that he wished to tax wheat, and the enquiry again addressed to him might, at the first glance, appear to be little other than an impertinence. A little deeper consideration of the matter, however, will show that such is not the case, and the fact adds special value to the Premier's assurance that he will not tax flour from abroad any more than he will tax wheat from abroad. The difference between wheat and flour is that existing between the unmanufactured article and the manufactured, and the whole argument of the fair traders is that while the unmanufactured article should come in free, the manufactured should be heavily taxed for the protection of the home industry. Lord Salisbury, therefore, did not avow himself a free trader when he refused to tax wheat, but he has distinctly so avowed himself now that he has refused to tax flour. Lord Salisbury's attitude will be a severe blow to the new Protectionist school, but an even more severe blow is that administered to them by the general attitude of the milling community. If anybody is, on protectionist lines, entitled to protection, it is the miller; yet the vast majority of millers are found to be staunch free traders, and the industry, which, according to protectionist showing, should be most deeply depressed, is found to be cheerfully protesting its sound health and perfect ability to stand by itself without any artificial prop or support. Not that times have for the last few years been altogether easy, but that the difficulties which have arisen have been manfully grappled with, and are already in process of being successfully surmounted. It is undeniable that the pressure of foreign, and especially of American, competition became very severe in the five years from 1879 to 1884. Imports into Liverpool became very heavy; London was depressed week after week from the same cause, while Glasgow was fairly overwhelmed, American supplies frequently exceeding those from all other sources combined. Flour imports, which in 1878 were 7,828,000 cwt., rose in 1879 to 10,728,000 cwt. Continuing steadily to rise, the total in 1882

surpassed thirteen millions, and in the following year the enormous quantity of nearly sixteen and one-half millions was attained. This, however, was the maximum. Last year saw a notable ebb; the total went down to fifteen millions, and the decline was not in receipts from America alone, but also in the arrivals from Germany and the Baltic, from France, Austria, and Hungary, and from such minor contributories as Chili and Spain. Canada and Australia showed a slight increase, and no British miller will do other than welcome the moderate and useful consignments of our colonial friends. During the present year there has been a further decrease, and recent shipments of flour from the United States have been comparatively light. Now these facts point to one or two conclusions well worthy the attention of our protectionist friends, and they may also be considered in connection with certain circumstances which exist of fact, and are beyond doubting by advocates of either free or fair trade. In the first place, the time of greatest pressure appears to be over. British millers have survived the strain and are now making that headway which the magnificent mechanical appliances at their disposal render possible, and even easy. The advertising columns of *The Miller* bear effective witness to the zeal and energy with which science and invention are being pressed into the service of the milling industry of Great Britain. The mills of Minneapolis are famous throughout America, and Hungarian flour has all the reputation of excellence, proved through successive decades. But neither in America, nor in Hungary, or in any other place, does there exist a secret beyond the power of the British miller to learn. The processes open to the foreigner are open to us, and the past ten years have seen something like a revolution in the milling machinery of this country. Neither brains nor money have been wanting for the development and improvement of British milling, and the results of the great changes made are already becoming apparent. The cheapness of money and the well-earned discredit into which many foreign investments have fallen, point to capital being easily obtainable for a yet fuller development and adaptation of British milling machinery and appliances, while the establishment of really first-rate mills in all our great towns will mean the production of fine bread at the same cost as a second-rate loaf hitherto. The English people do not yet get as good flour or as good bread as they very well might, hence comes very largely the favor which has been shown to American flour, especially when offered for sale in a manner convenient for retail purposes. Such a preference for American flour has had an educational value on British millers, but there is no real reason for any discouragement over the matter. Great Britain now holds that central position in agricultural commerce which gives her a natural advantage over all competitors. We do not want to have better milling machinery than the Americans or the Hungarians in order to hold our own. If we only have as good, it is fully sufficient, for our choice of wheat is wider and better than that at the disposition of any other nation. Every country which grows wheat may fairly claim for such corn either some special intrinsic excellence, or some special

value in combination with other sorts. Such a claim is, in fact, admitted, and we have been enabled from time to time to give tables showing wherein such special excellences reside, as well as to suggest what special admixtures and combinations are to be recommended. It is conceded, then, that the greater the choice of sorts of home and foreign wheat, the better is the position of the miller who has good machinery and knows his trade. This being so, let us just see what choice our millers had last year. The following is the list of countries whence wheat was imported. First comes America, with at least five well-marked varieties, namely, red winter, spring, California white, California amber, and Canadian. Next, there comes Russia, with Azima, Saxonka, Odessa, Ghirka, and other varieties. India sends the pure white Delhi wheat, the well-known No. 2 Calcutta white or club wheat, the excellent Jabalpur or Central Indian wheat, and three or four varieties of strong red wheat. Persia, Australia, New Zealand, Chili, La Plata, Germany, France, Turkey, Egypt, and Roumania, are ten other contributories; some of them of very great importance. Altogether, we have not less than about thirty distinct varieties of wheat obtainable at our markets. Can this be said of the greatest of foreign exchanges? Of Chicago, or Paris, or Vienna, or Buda-Pesth? The choice offered to the British miller cannot be equalled or even approached by any choice which is offered to our French neighbors, or Austrian friends, or American cousins. Nor is this all. Just as in British wheat growing the straw is a very important consideration, so in British milling the disposal of the offals is a matter of great importance, and the prices obtained go far to make a small percentage of total profit into a large one. Now, it is not every foreign miller who can command a constant and ready demand for his offals. There is a good deal of waste in many foreign mills. There at least need be none in British mills. The labor at the disposal of American and Hungarian millers is skilled and good, yet with the rapid development of mechanical appliances, it may be doubted whether any foreign country will be able in the end to hold its own against the unrivaled engineering talent in Great Britain which the scientific miller can command. Ours is a country of commerce, a country of engineers, of skilled mechanics and mechanicians. The introduction of science and scientific machinery into milling is on the side of the British miller, and we have no fears for a future in which British science and British industry stand together shoulder to shoulder, and work together, with enlightened ability, for the common weal. From the very nature of the case, the depression of recent years cannot lift other than gradually; but that it will lift we feel assured. There are, in fact, signs that it is already lifting, and nothing but a constitutional faintheartedness can account for the views of those persons who hesitate to predict a brilliant and prosperous future for the great milling industry of the United Kingdom.—*The Miller*, (London).

"I HAVE such an indulgent husband," said little Mrs. Doll. "Yes, so George says," responded Mrs. Spiteful, quietly, "Sometimes he indulges too much, doesn't he?"

READ AND ANSWER QUICKLY!

CAWKER'S

American Flour Mill & Mill Furnishers Directory

— FOR 1886, —

is now in press, and will be ready for delivery about Jan. 15, 1886. In compiling this book it has been our aim to give the correct address to all firms or persons owning flouring mills in the United States and Dominion of Canada; to state wherever we have succeeded in obtaining reliable information, whether steam or water power is used; to give the capacity of mills in barrels of flour per day of 24 hours; to state whether millstones or rollers or both are used; to state whether cornmeal, buckwheat flour, rye flour or oat meal are made as a specialty, and finally to indicate by a sign whether the party opposite whose name it is placed is rated to be worth \$10,000 or more. In addition we add a list of leading millwrights in almost every state and territory, and a list of the principal flour brokers, flour exporters and importers in various parts of the United States and Europe. MILLERS will find this a very valuable feature, worth many times the cost of the book to them. The SPECIAL points of information in this Directory are in most cases obtained from DIRECT CORRESPONDENCE. The Directory is published in pocket-book form, size of sample page enclosed, those for pocket use by commercial travelers being printed on French folio paper, thin, light and strong, and those for office use on elegant book paper. All copies will be strongly and handsomely bound. In ordering, specify which kind you desire. PRICE, single copy, \$10.00; three copies, \$25.00; seven copies for \$50.00. No deviation can or will be made from these prices.

ADVERTISEMENTS. Flour Dealers, Millers, Mill-furnishers, Insurance Companies, Transportation Companies, etc., will find this a most valuable medium for advertising. Should you desire to insert an advertisement, you can do so at the rate of \$10.00 per page, or \$6.00 per half page, no less than half page ads taken. No advertisements will be inserted on the cover. This Directory will reach the very BEST OF THE TRADE in this country and Europe. Copy and Cuts if any must be in our hands at the very latest by January 10th. The earlier the better. Address all communications to

E. HARRISON CAWKER,

PUBLISHER.

124 Grand Avenue, MILWAUKEE, WIS.

ORDER FOR DIRECTORY.

E. HARRISON CAWKER, Publisher,

124 Grand Avenue, MILWAUKEE, WIS.:

Please deliver to us one copy of "CAWKER'S AMERICAN FLOUR-MILL AND MILL-FURNISHERS' DIRECTORY FOR 1886," as soon as published, for which we agree to pay TEN DOLLARS upon delivery of the book.

Name, _____

Post Office, _____

County, _____

State, _____

NEWS.

DEAD—William Comins, miller, Paxton, Pa.

BURNED—D. Barron's mill at Amherstburg, Ont.

SOLD OUT—James Bratton, miller at Easton, O., has sold out.

S. L. HERRINGTON & Co.'s mill at Wellsboro', Pa., is burned; insurance \$3,500.

MILLER BRO.'s mill at Mishawaka, Ind., burned, Dec. 10. Loss is reported at \$25,000; insurance \$4,000.

N. A. LOGAN & Co.'s mill at Michigantown, Ind., was recently burned. Loss reported at \$6,000. Insurance only \$600.

C. C. PHILLIPS, Philadelphia, Pa., manufacturer of grinding mills had his stock recently damaged by fire; insured.

THE citizens of Gary, Dak., offer a bonus of \$1,500 cash to any proper party that will erect a good roller mill in that place.

THE mill owned by the Texas Mill & Elevator Co. at Corsicana, Tex., will soon have its capacity enlarged to 500 barrels per day.

KIRTLAND BROS., Oblong, Ill., have just placed the contract to change their mill to the roller system with capacity of 75 barrels per day. It is a steam mill and the only mill at Oblong.

THE boilers in Eaton & Parks' flour mill at Sullivan, Ind., exploded Dec. 19, severely injuring several persons, including the proprietors, and doing damage to building and machinery estimated at 3,000.

JUDGE J. E. LOOMIS, the well known southwestern representative of E. P. Allis & Co., was seriously hurt in a railroad accident near Ft. Worth Texas. His many friends will be glad to learn that he is recovering rapidly.

NEW MILLS.—A 100-bbl. roller mill at Stuart, Neb. A 100-bbl. mill at Stevenson, Ala., by Johnson & Allison. A small mill by A. A. Kelly, of Jonesboro', N. C. A 50-bbl. mill by Chas. Schreimer at Kerrville, Tex. A \$30,000 mill in Fannin Co., Tex., by the Farmer's Alliance.

A Corry, Pa., special of Jan. 1, says: The Corry City Flouring Mills, owned by Starbird, Hammond & Allen, were destroyed by fire at 4 o'clock this morning. The fire originated in the basement and cannot be accounted for. The building was a large three-story brick, and was equipped from top to bottom with the latest improved machinery for the roller process. The loss is \$25,000; insurance \$28,000.

THE boiler in Eaton & Parks' mill, at Sullivan, Ind., exploded Dec. 11, making a fearful crash and causing a great deal of excitement. An alarm was immediately given, and by the promptness of the firemen the fire was extinguished without doing much damage. Michael Ambrose, the miller, was seriously hurt, being terribly mangled about the face, body and head. Charles Parks and Jeston Eaton, the proprietors, were both injured, though not seriously. Fred. Eaton, the engineer, escaped without injury. He became alarmed before the explosion, and ran out of the way. The engine room building is a total wreck, and the mill machinery and buildings are damaged about \$3,000. As to how all parties escaped as they did is a mystery. There was scarcely any water in the boiler,

and young Eaton, the engineer, had complained to the proprietors of the danger, but they were so rushed with work they paid no attention to the matter.

THE Cummer Engine Co., Cleveland, O., has received the following letter from Geo. W. Cissel & Co., Washington, D. C., and it is self-explanatory: "Last spring we concluded to build a first-class 400-bbl. mill, and engaged E. G. Metz as our head miller and E. Corbett as our millwright, and sent them out to investigate the different kinds of flour machinery. Upon their return they reported a decided preference for the Jonathan Mills Universal flour dresser for the entire bolting system of our mill, except the scalping reels for the different wheat breaks. Having implicit confidence in their judgment, we placed our order with you for 20 36-inch dressers. The mill was completed and started Sept. 1, the machinery running perfectly. It has not stopped an hour since, nor has there been a change of a cloth or spout. Two weeks after starting the demand was so great for flour that the mill was forced to run day and night, and has done so ever since. The yields are perfectly satisfactory, and the different grades of flour are unsurpassed by any similar grades from any of the best mills of this country, which speaks well for Mr. Corbett as a milling expert. His system, we think, has no superior, and do not know how to say enough in praise of it; also your flour dressers, which have greatly helped to make the mill such a perfect success. There is not a single one of the whole 20, but what is doing its work perfectly satisfactory and with ease. It gives us great pleasure to inform you of our unqualified endorsement of your Universal flour dressers, as they have proved themselves perfect in their operations on all kinds of material, from the highest to the lowest."

The following are among the numerous orders placed with the Case Manufacturing Co., Columbus, Ohio, since our last issue: From Leroy Atkins, Trenton, Mo., for a full line of rolls, centrifugals, scalpers, &c., for a complete roller mill on the Case system, using 10 pairs of rolls with patent automatic feed; from D. S. Shellabarger & Co., Deoatur Ill., for all necessary machinery for a roller corn-meal mill on the Case system; from W. T. Pyne, Louisville, Ky., for one additional pair of rolls, to be shipped to Steinburg & Co., Scottsburg, Ind.; from Richton & Co., Williamstown, W. Va., for additional rolls; from G. N. Minor, Cedar Falls, Iowa, for all the necessary rolls and other machinery for a roller corn-meal mill on the Case system; from Benson & Higby, Fairmount, Ill., for rolls, purifiers, scalpers, &c., for a full roller mill on the Case system; from A. Dietly & Son, Moreheadville, Pa., for one additional pair of rolls with patent automatic feed; from R. Tuttle & Co., Columbia City, Ind., for an additional pair of rolls with patent automatic feed; from Elliot & Moore, Milford Centre, O., for two pairs of rolls with patent automatic feed; from Henry Muntz, Conway Springs, Kan., for one improved centrifugal reel; from Castru, Mallory & Co., Flint, Mich., for rolls to be shipped to W. H. Loomis, Mt. Morris, Mich.; from A. L. Strang & Co., Omaha, Neb., for all necessary machinery for a roller corn-meal mill on the Case system, to be built at Omaha, Neb.

A LOOK AHEAD.

S. H. Richardson says: "Two years from now the trade will think less about a 'visible' of 100,000,000, or for that matter, 125,000,000 bush. The construction of innumerable small elevators at country points along the lines of railroads is educating the farmers to new ways of doing business. The wheat grower is told that the way for him to do is to put his grain into these elevators where he can store it at small cost, and be in a position at

any time to take advantage of booms in the market. The advantages of the new way are so apparent to him that he very willingly pushes his wheat to the front. Then when the warehouses are full, the speculators take a hand, and, by depressing prices, seek to count the small holders out. Every argument that can be brought forward is sung into the ears of the farmers, and they are told that the markets are going down, down, down to the bottom of the bottomless pit of depreciation. The wise farmer pays no attention to the talk of wreckers, but waits for the boom that was held out as one of the inducements for him to remove his wheat from his granaries into the warehouses on the railroads. He is in as good a position to form an independent and intelligent judgment as to the course of the market as the men have who own the elevators or manipulate the price of breadstuffs at the great speculative and distributing centers. He knows that the fluctuations of a day, a week, or a month cannot change grand results, and that in the years of plenty the general average of prices will be low and tendency of values downward, while in years of scarcity and partial crop failures higher prices must inevitably prevail sooner or later during the season. These facts are patent to him, as they are to every intelligent man. Farmers are developing into shrewd merchants. And as the years go on they will understand better and better the general laws of trade and the causes that influence the prices of the commodities they produce. They will feel their strength, and the efforts of speculators will be powerless to move them from the positions they will take. The wheat trade is entering upon a new era in its development, and producers and grain merchants will be greatly benefited thereby. What difference does it make whether the wheat that is raised is held back by the farmers as an 'invisible reserve,' or put in warehouses as a 'visible supply?' Very close estimates are made as to what the crop will be before a bushel of grain is moved. The trade is oppressed by the enormous proportions of a 55,000,000 or 60,000,000 bus. 'visible,' representing a money valuation of \$40,000,000 or \$45,000,000, yet we have before us the spectacle of railroad capitalization running up in the billions of dollars lifted bodily and advanced from 20 to 50 per cent. Just think of it for a minute. Our whole 'visible supply' of wheat represents less money than the capital stock and bonded debt of many individual railroads. It ought to be no load to carry. The country could lift it up without feeling the weight of it any more than a boy would a box of matches. If the same crop conditions that exist at this time were to exist three years from now, with the people educated up to the changed methods of moving grain, we would see \$1.25 or \$1.50 for wheat. If the election of one man to the directory of the St. Paul road was sufficient to raise the price of that stock from 64 to par, and advance the whole stock list to a point that represents enhanced values 10 or 20 times greater in the aggregate, than the value of all the wheat in sight, surely believers in wheat ought not to lose faith in that commodity. When the country gets under it the load will not be felt."

We will send the U. S. Miller and The Milling Engineer for one year for \$2.00.

Important Notice to the Milling and Mill-Furnishing Public

We publicly announced sometime since that we had determined to no longer submit to the secret violation of our injunction by the Geo. T. Smith Middlings Purifier Company. We say **secret**, for, while the Smith Co. and their associates ostensibly obeyed the injunction, and withdrew their advertisements and notices from the trade publications, they, in fact, have, in the meanwhile been secretly selling Dust Collectors, and in an underhanded manner endeavoring to injure our trade. Accordingly, proceedings for the punishment of the Smith Company and their associates were instituted a short time since. These proceedings were to be heard by order of the court on Tuesday, September 1st, the day also fixed by mutual stipulation for the trial of the action. When the day arrived, and the respective rights of the parties were to be weighed in the balance, we were confronted in court by an application on the part of the Smith Company and its co-plaintiffs, for a change of venue to the United States Court. This, notwithstanding the stipulation to try the case on that day. Under an Act of Congress the application had to be granted, and hence all proceedings are at a standstill, until a meeting of the United States Court in October. **Millers and Mill-Furnishers may draw their own conclusions from this "Back Down."** Comment is unnecessary. We only desire in this connection to repeat the warning heretofore given in regard to purchasing machines from the Geo. T. Smith Middlings Purifier Company. The present situation is as follows:

- 1st. **The Change of Venue does not affect our injunction. It is still in force.**
 - 2d. The Geo. T. Smith Middlings Purifier Company has been enjoined by order of the court from manufacturing any Dust Collectors whatever under the consolidated patents now in force.
 - 3d. The Milwaukee Dust Collector Manufacturing Co. are the sole and exclusive licensees, and no one is authorized to imitate the Prinz Dust Collector.
 - 4th. Parties buying from anyone but ourselves will be charged as infringers, and held liable as such.
 - 5th. Everyone, who with knowledge of these facts, helps or assists the Geo. T. Smith Middlings Purifier Company, Samuel L. Bean, or Kirk & Fender, in violating the injunction may be made liable as a joint *tort-feasor*.
 - 6th. No guarantee of the Smith Company can stop the operation of the law or save a violator of the injunction from **IMPRISONMENT**.
- After these repeated warnings we cannot be blamed if we prosecute **CIVILLY AND CRIMINALLY** all persons who assist the Smith Company and its associates in violating the injunction.

Yours Respectfully,

Apply for Prices, etc.

Milwaukee Dust Collector Mfg. Co.

NOTE.--The Prinz Dust Collector has received highest honors and Silver Medal at Paris Exhibition and Silver Medal at Koenigsberg, Prussia.

THE CENTURY for 1885-86.

The remarkable interest in the War Papers and in the many timely articles and strong serial features published recently in the CENTURY has given that magazine a regular circulation of

MORE THAN 200,000 COPIES MONTHLY.

Among the features of the coming volume, which begins with the November number, are:

THE WAR PAPERS

BY GENERAL GRANT AND OTHERS.

These will be continued (most of them illustrated) until the chief events of the Civil War have been described by leading participants on both sides. Gen. Grant's papers include descriptions of the battles of Chancellorsville and the Wilderness. Gen. McClellan will write of Antietam, Gen. D. C. Buell of Shiloh. Gens. Pope, Longstreet and others of the Second Bull Run, etc., etc. Naval combats, including the fights between the *Kearsarge* and the *Alabama*, by officers of both ships, will be described.

The "Recollections of a Private" and special war papers of an anecdotal or humorous character will be features of the year.

SERIAL STORIES BY

W. D. HOWELLS, MARY HALLOCK FOOTE,
AND GEORGE W. CABLE.

Mr. Howells' serial will be in a lighter vein than "The Rise of Silas Lapham." Mrs. Foote's is a story of mining life, and Mr. Cable's a novelette of the Academics of Louisiana. Mr. Cable will also contribute a series of papers on slave songs and dances, including negro serpent-worship, etc.

SPECIAL FEATURES

Include "A Tricycle Pilgrimage to Rome," illustrated by Pennell; Historical Papers by Edward Eggleston, and others; Papers on Persia, by S. G. W. Benjamin, lately U. S. minister, with numerous illustrations; Astronomical Articles, practical and popular, on "Sideral Astronomy"; Papers on Christian Unity by representatives of various religious denominations; Papers on Manual Education, by various experts, etc.

SHORT STORIES

By Frank R. Stockton, Mrs. Helen Jackson (H. H.), Mrs. Mary Hallock Foote, Joel H. Chandler Harris, H. H. Boyesen, T. A. Janvier, Julian Hawthorne, Richard M. Johnston, and others; and poems by leading poets. The Departments,—"Open Letters," "Bribe-a-Brac," etc., will be fully sustained.

THE ILLUSTRATIONS

Will be kept up to the standard which has made THE CENTURY engravings famous the world over.

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Regular subscription price, \$4 a year. To enable new readers to get all the War Papers, with contributions from Generals Grant, Beauregard, McClellan, J. E. Johnston, Lew Wallace, Admiral Porter and others, we will send the 12 back numbers, November, 1884, to October 1884, with a year's subscription beginning with November 1885 for \$6 00, for the whole. A subscription with the 12 numbers bound in two handsome volumes \$7.50 for the whole. Back numbers only supplied at these prices with subscriptions.

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St. NICHOLAS aims both to satisfy and to develop the tastes of its constituency; and its record for the past twelve years, during which it has always stood, as it stands to-day, at the head of periodicals for boys and girls, is a sufficient warrant for its excellence during the coming season. The editors announce the following as among the

LEADING FEATURES FOR 1885-86:

A Serial Story by Frances Hodgson Burnett. The first long story she has written for children.

A Christmas Story by W. D. Howells. With humorous pictures by his little daughter.

George W. Whigton by Horace E. Scudder. A novel and attractive Historical Serial.

Short Stories for Girls by Louisa M. Alcott. The first—"The Candy Country"—in November.

New "Bits of Talk for Young Folks," by "H.H." This series forms a graceful and fitting memorial of a child-loving and child-helping soul.

Papers on the Great English Schools. Rugby and others. Illustrations by Joseph Pennell.

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"Jenny's Boarding House," a serial by James Otis. Dealing with news-boy life and enterprise.

Frank R. Stockton will contribute several of his humorous and fanciful stories.

"Drill." By John Preston True. A capital school-story for boys.

The Boyhood of Shakespeare, by Rose Kingsley. With illustrations by Alfred Parsons.

Short Stories by scores of prominent writers, including Susan Coolidge, H. H. Boyesen, Nora Perry, T. A. Janvier, Washington Gladden, Rossiter Johnson, Joaquin Miller, Sophie May, Ezekiah Butterworth, W. O. Stoddard, Harriet Prescott Spofford, and many others.

Entertaining Sketches by Alice W. Rollins, Charles G. Leland, Henry Eckford, Lieutenant Schwatka, Edward Eggleston, and others.

Poems, shorter contributions, and departments will complete what the *Rural New-Yorker* calls "the best magazine for children in the world."

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Liberal Wars—1839, Afghan war; 1839, Aden rebellion; 1840, Syrian war; 1841, China war; 1841, Cabul insurrection; 1847, Second Sikh war; 1850, Kaffir war; 1851, Burmese war; 1854, Crimean war; 1856, China war; 1857, Persian war; 1857, Indian mutiny; 1860, China war; 1860, New Zealand war; 1865, New Zealand war; 1863, Ashantee war; 1873, Ashantee war; 1881, Transvaal war; 1882, Egyptian war; 1884, Soudan war.

Conservative Wars—1848, Sincde war; 1845, Sikh war; 1867, Abyssinian war; 1879, Zulu war; 1879, Afghan war.—*Philadelphia Press.*

A Tale of Nine Cities

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WIS.

A REMARKABLE GAME.

One of the most novel games of poker on record was played by Mr. Lemuel Merriwether, now business manager of Effie Ellsler's company. A number of years ago Mr. Merriwether, then quite a young fellow, was farming in Union county. One day toward the close of the winter season he received a visit from a neighbor and a game of poker was suggested. A young friend of Merriwether's who had a half interest in the farm, which was rented, also joined the party. None of the young fellows had any money, so they decided to put up whatever they owned as collateral, set a price upon it, and play for it. Merriwether had a bull calf, forty bushels of potatoes and some corn, his partner had an old sow, twenty bushels of turnips, and four cords of firewood; the neighbor had a brood mare, some wheat, and a dozen sides of bacon. Whatever was portable of these effects was brought to Merriwether's cabin before the game began. The brood mare and the bull calf were tied outside the door. The game lasted three days and three nights, and was one of the most exciting contests on record. Some one would bet a side of bacon on "two pair," and the man with "a bob-tail flush" raise him a cord of fire wood, or bet a bull calf on "three aces" and have him called with a sow, by a man who held a little "straight." A "jack-pot" was played, which perhaps has never been equaled. One of the boys opened with a pair of aces for five bushels of turnips, another one "staid" on a pair of queens for half a cord of fire-wood. Merriwether glanced cautiously over his hand and didn't have a pair. He saw the bets already made and raised them a bull calf better. There was considerable excitement at this move. The first man added enough bacon to his stock to make it right and the other supplied his share of turnips and cord-wood. The first man drew three cards to his aces, the second one held up an ace and drew two cards, and Merriwether stood "pat." It was Merriwether's first say, and he said laconically: "I bet my stack," which consisted of a few fragments of cord-wood, a few bushels of turnips, and a third interest in the brood mare. The man who had opened the pot with a pair of aces did not better his hand. He studied for fully five minutes and then whispered sharply: "I pass." The next man looked at Merriwether's passive face a moment, and said: "I call it." He showed down his pair of queens not having bettered in the draw, and Merriwether's pat hand fluttered down upon the table and there was not as good as a pair in it. He saw his competitor sweep in the last of his year's labor on the farm, bacon, turnips, bull calf, and all, and then quietly fell under the table and slept like a child.—*Louisville Commercial.*

THE CHICAGO MANUAL TRAINING SCHOOL.

The promise made by the Commercial Club of this city that a first-class school would soon be found on Michigan avenue and Twelfth st. is being grandly fulfilled. As the wants of the school are developed the necessary brains and means are ready to meet them. In the material evolution of the project there came first the lot, for which twenty-five thousand dollars were paid; then the building, at a cost of fifty thousand; then the equipment of the carpenter shop; then foundry and blacksmith shop, all of which have been noticed in these

columns. The boys constituting the first class, who were admitted less than two years ago, having passed through the carpenter shop, foundry and blacksmith shop, were ready for vise work in iron in September of this year, and have been engaged in chipping and filing since that date. They are now busy in the machine shop, the equipment of which is nearly complete. A planer, a shaper, a drill, and three engine lathes are already in position; five additional engine lathes and two hand lathes will be ready for use by the time these lines are in print, thus practically completing the equipment of the school as originally designed. During the last vacation the capacity of the drawing room was doubled, an additional school room was seated, and a chemical laboratory for pupils' work was furnished. The school has now over 150 boys in attendance, in charge of eight teachers. The junior, or entering class, has hitherto been limited to seventy-two, but preparations are now being made to admit twice that number next September. The next examination for admission will be held June 26, 1886, and will cover only the English elementary studies. The *Industrial World* has repeatedly noticed the excellent work done by the pupils of this school. The display of last June was remarkable, and those at all skeptical of boys' ability to do good work in wood and metal while at the same time they are carrying on high-school studies, will do well to visit the school where they will be courteously received at any time during school hours.

The growth of the manual training idea has been very rapid of late. Baltimore, Toledo and Philadelphia have already added manual training to their public school course, and it has gained a foothold in nearly or quite fifty cities or villages in the United States. The Chicago school board is having the matter under advisement, and it is to be hoped that they will not permit this city to be outdone by others. There is a vast amount of latent hand power in our school boys that ought to be developed, and its development has been proved to be not only not a hindrance but an actual help to their intellectual progress. The boy who never had any ambition to "make something" can hardly be called a normal boy, but our schools have thus far afforded him no opportunity to make anything except pictures. The manual training school boy is delighted with the chance to do something as well as to say something, to produce something with his hands as well as with his brains. The shop seems to be more his natural element than the school room, even though he has no idea whatever of becoming a mechanic.—*Industrial World.*

PLEASANT PARAGRAPHS.

HOW A CHICAGO MILLIONAIRE PAID A DEBT.—A correspondent of the *Kansas City Times* tells the following story:

Prior to the panic of 1873, Mr. H. H. Honore held about \$9,000,000 or \$10,000,000 of Chicago property, on which he owed about \$5,000,000, and no man in Chicago had better credit. He carried a bank account at St. Louis, where he had the confidence of wealthy capitalists. During the squeeze of 1873, and near the first of the year, he was in St. Louis, and was in conversation with the President of the bank where he did business.

"Mr. Honore," said the banker, "your account is overdrawn here some \$2,500, and as it is near the first of the year we would be exceedingly obliged if you would balance the same to-day."

"It is impossible and out of the question for me to do it to-day, and the probabilities are that it will be many more days before I can," returned Mr. Honore.

"Well," says the banker, "can't you give a note, draw a draft, do something, just so the book-keeper can balance the books?"

"Draw a draft, who the d—l would I draw a draft on? I might as well telegraph the Czar of Russia for funds as to draw a draft."

"Well, Mr. Honore, draw a draft on the Czar, that will square the books, and that's the main thing just now."

So after some conversation a sight draft for the amount was regularly drawn and started on its mission, and the proper credit given Mr. Honore. The draft passed through many banking firms in this and the old country, and and by the time it reached the Czar had many blue ribbons and seals belonging to the different institutions through which it passed.

It was presented to the Czar through one of his agents, who desired instructions what to do with it. The Czar looked it over, but could not understand how he came to owe money to Mr. Honore, but as everything appeared regular, he instructed that it be paid, but told his secretary to inform Mr. Honore that the next time he drew a draft to send an itemized bill.

It is said that Jay Gould's father, an honest old Delaware farmer, started him out with a kick and half a dollar, and told him to "go to the devil." Jay is a dutiful and obedient boy.

THE new Merchants' Exchange building in Memphis was opened with prayer, in the course of which one member said: "They deal in futures here."

"Yes, I see," said another; "and by George, they might as well open a 'jackpot' with prayer."

ALSO "ENGLISH AS SHE IS SPOKE."—Highly educated Teuton who knows everything—"Der fault I have to find mit der English is dot it has not dot perspikooity dot der Tcherman has. Now, for oxample: in der English you say science. Dot conveys no idea. In Tcherman we haf der simple vord, Wissenschaftlichen, vich is melodious und comprehensif. It is der same mit all your papers. You haf a Real Estate Journal. Dot is three words. In Tcherman we say Grundeigentumszeitung, in one. It is more flexible. In your theatres you haf a paper called der 'Entr' acte. We call such a paper 'Theaterzwisehenakszeitung.' It is more beautiful. English is a veak langkwitch; unt pesides, Tchermans speaks it unt write it better as der English."

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A Remarkable Coincidence.—While the new Furnace was in process of construction, the editors and publishers of Webster's Unabridged were engaged upon their new work which is as great an improvement upon all previous Dictionary productions, and just as valuable in its way as is the incredible fuel economizer above alluded to. Webster's Practical is not only a new compilation by the leading Dictionary House of the world, but it embodies several new features which, for ordinary use, render it pre-eminent among dictionaries—not excepting even the Unabridged.

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4th, Derivative Terminations.—Only the larger dictionaries hitherto published give the derivative terminations. The New American Dictionary, for instance, does not give any of the four variations of so common a word as forbear, while they are all given in Webster's Practical.

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The following paragraph is reproduced from Webster's Practical.

Book, book, n. A collection of sheets of paper, etc., bound together; a literary composition, written or printed; a subdivision of a literary work. (*Mer.*) A volume in which accounts are kept. — *v. t.* [booked (bookt), bookings.] To enter, or register in a book. — *Book'ish, a.* Given to reading; more acquainted with books than with men. — *Book'ish'ly, n.* One who binds books. — *Book'ish'ry, n.* A place for binding, etc. — *bind'ing, n.* Art or practice of, etc. — *case, n.* A case with shelves for holding books. (*Bind.*) A book-cover. — *cover, n.* (*Bind.*) A case for a book; a cover of cloth or other material prepared for casing a book. — *keep'er, n.* One who keeps accounts. — *keep'ing, n.* Art of recording mercantile transactions and keeping accounts. — *learned, -l'end, a.* Versed in books; ignorant of life. — *learn'ing, n.* Learning acquired by reading. — *map, n.* opp. to practical knowledge. — *mak'er, n.* One who writes and publishes books; a compiler; a sporting man who makes a record of bets. — *mak'ing, n.* The practice of, etc. (compilation); systematized betting. — *mark, n.* Something placed in a book by which to find a particular place. — *plate, n.* A label indicating ownership, place in a library, etc., usually on the inside of the cover of a book. — *post, n.* The post-office arrangement by which books are mailed. — *sell'er, n.* One who sells books. — *shelf, n.* A shelf to hold books. — *shop, -stall, -store, n.* A place for selling books. — *stand, n.* A stand for selling books in the streets. — *stall, -store, n.* A support to hold books. — *worm, n.* A small insect that eats holes in books; one excessively addicted to study.

THE QUANTITY TEST.

(The following exhibits are from the texts of the dictionaries named.)

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Quality Test.—Aside from all advantages above alluded to, there is still another and very important feature of the new work to be considered, viz: its quality as compared with the cheap dictionaries which have had the largest sales, and which have been compiled chiefly from the old editions of Webster on which the copyrights have expired. Hence Webster's Practical contains more matter than any other dollar dictionary. Its quality, to say the least, is the very best, while its arrangement and all other new and desirable features, including first-class illustrations, paper, printing and binding are added without extra charge.

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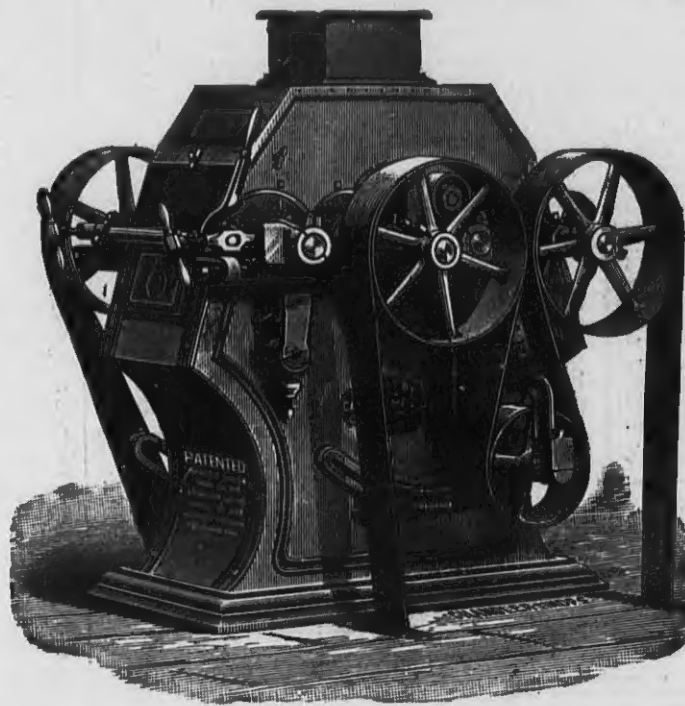
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